RE CINCO PROJECT GEN-TIE

PLAN OF DEVELOPMENT

March 2014

Plan of Development
RE Cinco Project Gen-tie
Kern County, California

Prepared for:
Bureau of Land Management
California Desert District
22835 Calle San Juan de los Logos
Moreno Valley, CA 92553

Prepared by:
Recurrent Energy
300 California Street, 7th Floor
San Francisco, CA 94101

Project contact:
Seth Israel, Vice President, Real Estate and Early Stage Development
Recurrent Energy
300 California Street, 7th Floor
San Francisco, CA 94901
(415) 501-9406
seth.israel@recurrentenergy.com

March 2014

TABLE OF CONTENTS

List of Figures

1. SUMMARY

RE Barren Ridge Solar 1 LLC (Applicant), a subsidiary of Recurrent Energy LLC, proposes to construct and operate the RE Cinco Gen-tie, an electrical generator intertie (gen-tie) line that would be located on federal lands managed by the Bureau of Land Management (BLM) within the California Desert Conservation Area (CDCA) planning area. The proposed gen-tie would interconnect to the regional electrical grid a planned 60 megawatt (MW) solar photovoltaic (PV) power generating facility (solar facility) located on private lands in an unincorporated area of Kern County, California. Together, the planned solar facility and the proposed gen-tie line are known as the RE Cinco Project (formerly the RE Barren Ridge Solar Project).

The RE Cinco Gen-tie would convey the power generated at the planned solar facility to the electrical grid. The proposed gen-tie would be a 230 kilovolt (kV) line between the solar facility and the existing Los Angeles Department of Water and Power's (LADWP) Barren Ridge Switching Station. The switching station is located approximately 2 miles north of the planned solar facility site. The Applicant proposes to construct portions of the RE Cinco Gen-tie across public lands administered by the BLM.

This Plan of Development (POD) has been prepared as part of the SF299 application process for a Right-of-Way (ROW) Grant from BLM for the portions of the gen-tie line that are located on federal land.

The RE Cinco Project is designed to meet the increasing demand for clean, renewable electrical power. Development of solar resources reduces reliance on foreign sources of fuel, promotes national security, diversifies energy portfolios, and contributes to the reduction of greenhouse gas (GHG) emissions. Solar energy development is also consistent with recent federal and state policies.

Project components on BLM lands would be restricted to the construction and operation of an overhead gen-tie line. Three alternative alignments are being evaluated in detail for the gen-tie, but the preferred alignment would originate at the northwest corner of the solar facility site and extend east across federal, private, and LADWP owned lands before connecting to the existing LADWP Barren Ridge Switching Station. Under the preferred alignment, the overall length of the gen-tie line would be 2.0 miles, of which only 1.6 miles would be located on BLM lands; the remaining 0.4 miles would be located on private and LADWP owned lands. The proposed ROW would be 150 feet in width plus additional areas extending from the main corridor to cover an existing access road, new spur roads, and pull/tension sites, resulting in a total ROW requirement of approximately 39.3 acres on federal land. Only a small portion of the ROW would be permanently or temporarily disturbed.

Construction and operation of the proposed gen-tie line would require long-term use of an existing adjacent service road on BLM land and the construction of new spur roads from the existing road.

Construction of the proposed gen-tie line would result in approximately 2.2 acres of permanent disturbance (1.5 acres on BLM lands and 0.7 acres on private or LADWP-owned lands) for the term of the ROW Grant, including the spur roads and the disturbance footprints of transmission support structures. Temporary disturbance during construction would include a 60-foot radius around each of the proposed structures and pulling and tensioning sites, resulting in up to 63.1 acres of temporary

disturbance (33.0 acres on public and 30.0 acres on private lands). The total temporary and permanent disturbance footprint is estimated to be up to 65.3 acres.

The BLM's consideration and approval of a ROW Grant for the proposed gen-tie line would not require an amendment of the CDCA Plan because the proposed RE Cinco Gen-tie would be located within a federally designated Energy Policy Act Section 368 Energy Corridor.

The duration of construction of the proposed gen-tie line would be approximately 6 months, and is anticipated to begin in February 2015. The duration of the ROW Grant sought is 40 years to accommodate pre-construction and construction activities (up to 1 year), plus a maximum duration of the life of the power purchase agreement for the solar facility (up to 35 years), plus site decommissioning and restoration activities (up to 4 years).

2. PROPONENT'S PURPOSE AND NEED

The purpose of the proposed gen-tie line is to provide a means of transmission for the energy produced at the solar facility and interconnection to the statewide electrical grid. Although a private land gen-tie route is feasible and available, the most efficient and preferred route between the solar facility and the LADWP switching station traverses BLM-managed lands.

The need for the proposed gen-tie line is four-fold:

1) To convey up to 60 MW of clean electricity to assist the State of California in achieving its 33 percent renewable portfolio standard for 2020 by providing a significant new source of renewable energy;
2) To lessen carbon emissions by conveying energy from a renewable generating facility instead of a like-sized fossil-fuel facility to meet increasing demand for in-state generation;
3) To complement planning goals and environmental stewardship through proper project siting; and
4) To bring living-wage skilled jobs to Kern County and California through development, construction, and operation.

3. PROJECT LOCATION

The proposed gen-tie is located in unincorporated southeastern Kern County, approximately 6.5 miles northwest of the community of California City, approximately 12 miles northeast of the community of Mojave, and approximately 0.8 miles south of the Los Angeles Aqueduct. Figure 1 provides a regional location map, Figure 2 shows a local area topographic map, and Figure 3 shows an aerial view of the project area, with notable features labeled.

The project area is comprised of two principal components, as described more fully later in this document: 1) the solar facility site, which is located solely on private lands in Section 25, Township 31 South, Range 36 East (Mount Diablo Base Meridian); and 2) a linear gen-tie that would travel from the solar facility site to the LADWP Barren Ridge Switching Station. Three alternative gen-tie alignments are assessed herein, but the preferred alignment would originate at the northwest corner of the solar

facility site and extend north-northeast across federal and private lands before connecting to the existing LADWP Barren Ridge Switching Station. The alternative alignments are shown in Figure 4 and are described below:

Alternative 1 (No Action Alternative): This Plan of Development considers development of the No Action Alternative, which would occur if BLM does not approve any gen-tie alternative across federal lands. In this case, because an entirely private and LADWP land alternative is possible, it is anticipated that the ultimate build-out of the No Action Alternative would be identical to Alternative 3, as described below.

Alternative 2 (Preferred Alignment): A primarily public land alignment approximately 2.0 miles in length, commencing at the northwest corner of the planned solar facility site, then traveling northeast parallel with the LADWP Barren Ridge Renewable Transmission Project ROW, then traveling northeasterly into Section 24 and 13, Township 31 South, Range 36 East, then into Section 13, Township 31 South, Range 36.5 East, then terminating in Section 18, Township 31 South, Range 37 East. Access to Alternative 2 would be provided by an existing dirt road with new spur roads to each transmission structure. The linear access road would be shared with LADWP. The Preferred Alignment could be constructed with primarily wood H-frame transmission support structures or primarily lattice steel structures; these two are described as Option A and Option B, below.

Option A (Preferred Option): Option A is the preferred technology, which would consist of 7 H-frame wood structures, 4 triple-wood-pole dead-end structures supported by guy wires, and 2 lattice steel structures to provide for a longer span to cross Pine Tree Canyon Wash. Under Option A, up to 13 new spur roads approximately 370 feet in length apiece would require construction off of the existing service road for the LADWP transmission lines to each of the proposed gen-tie support structures.

Option B (Lattice Tower Option): Option B is the alternative technology, which would consist of 10 lattice steel structures. Under option B, up to 10 spur roads approximately 200 feet in length apiece would require construction off of the planned LADWP spur roads to the proposed gen-tie support structures.

Alternative 3 (Alternative BLM Alignment): A primarily public land alignment approximately 1.9 miles in length, commencing at the northeast corner of the planned solar facility site and travelling into Section 25, Township 31 South, Range 36 .5 East, then traveling northerly through the western portions of Sections 24, and 13 of Township 31 South, Range 36 .5 East, and then turning northeastwards and terminating in Section 18, Township 31 South, Range 37 East. Access to Alternative 3 would be provided via a new linear access road along the alignment.

Alternative 4 (Private Land Alignment): An entirely private land alternative approximately 3.5 miles in length, commencing at the southeast corner of the planned solar facility site and travelling easterly in Section 25 Township 31 South, Range 36 East, crossing over State Route 14 (SR-14), and then traveling easterly through Section 36, Township 31 South, Range 36 .5 East and into Section 31,

Township 31 South, Range 37 East, then northerly into Section 30, Township 31 South, Range 37 E, then north easterly within Section 30 adjacent to State Route 14 (SR-14), then turning northwesterly, crossing SR-14, and then into Section 19, Township 31 South, Range, then turning north within Section 19 and terminating in Section 18 of Township 31 South, Range 37 East. Access to Alternative 4 would be provided via a new linear access road along the alignment.

Each of the alternative gen-tie alignments is located within the U.S. Geological Survey (USGS) Mojave NE 7.5-minute quadrangle.

Additional gen-tie alignments were considered during project development but were rejected as infeasible. Because these alignments are no longer under consideration, they have not been subjected to detailed analysis. These alternative alignments are illustrated in Figure 4 and are also described later in this document, along with the rationale for their rejection.

4. EXISTING LAND USE CLASSIFICATION AND OWNERSHIP

4.1 Kern County Land Use Classification

The private lands underlying the planned solar facility and the private lands that would be crossed by the gen-tie alternatives are classified in the Kern County General Plan as "Resource Management" land. The private land underlying the solar facility is classified as "A FP" (Exclusive Agriculture Floodplain Combining), and the gen-tie alternatives cross private lands classified as "A" (Exclusive Agriculture), "AGH" (Limited Agriculture Geologic Hazard Combining), "PLRS" (Platted Lands Residential Suburban Combining). These classifications allow for the construction of solar developments and transmission facilities with the issuance of a Conditional Use Permit from the County. The County approved a Conditional Use Permit for the solar facility and the preferred gen-tie line across private lands in 2011.

4.2 BLM Land Use Classification

The public lands that would be crossed by the proposed gen-tie line under the preferred alignment have been classified by the BLM as Multiple Use Class "L" or "Limited Use" lands. Figure 5 shows the BLM land use classifications for public lands in the project area. Private lands are not classified.

According to the CDCA Plan, Class L lands are to be managed to provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished. The CDCA Plan provides that new electric transmission facilities can be allowed within Class L lands if they are located within designated transmission corridors. The project area is included within a designated Energy Policy Act Section 368 Energy Corridor. Energy corridor designation has been applied to certain federal lands where the construction, operation, or upgrade of one or more energy transport projects is preferred. The "23-106 Corridor" in the project area was designated in 2008. The corridor is 10,560 feet (2 miles) in width, and includes all of the BLM lands under consideration for Alternatives 2 and 3. Figure 2 shows the public land sections in the project area that were included in the 23-106 Corridor designation.

A 2008 Programmatic Environmental Impact Statement (EIS) prepared for the federal west-wide energy corridors found that the 23-106 Corridor's designation within the project area was consistent with the

CDCA Plan. Accordingly, a plan amendment is not required for energy transmission projects proposed within the corridor.

Also according to the CDCA Plan, a Plan Amendment is not required for the approval of projects sited on Class L lands that satisfy the Multiple Use Class Guidelines. The proposed gen-tie line satisfies the Multiple Use Class Guidelines, as demonstrated in Table 1.

Table 1. Multiple Use Class Guidelines Consistency Analysis – Class L Lands		
Land Use Activities	**Multiple-Use Class L – Limited Use**	**Consistency of Proposed Gen-tie**
1. Agriculture	Agricultural uses (excluding livestock grazing) are not allowed.	Not applicable. Agriculture is not proposed.
2. Air Quality	These areas will be managed to protect their air quality and visibility in accordance with Class II objectives of Part C of the Clean Air Act Amendments unless otherwise designated another class by the State of California as a result of recommendations developed by any BLM air-quality management plan.	Class II objectives will be met by the project. Air emissions from project construction will be minor, and air emissions from project operation will be negligible.
3. Water Quality	Areas designated in this class will be managed to provide for the protection and enhancement of surface and groundwater resources, except for instances of short-term degradation caused by water development projects. Best management practice, developed by the Bureau during the planning process outlined in the Clean Water Act Section 208, and subsequently, will be used to avoid degradation and to comply with Executive Order 12088.	Groundwater will not be used for the purposes of the project, and surface waters will be protected by spanning Pine Tree Canyon Wash.
4. Cultural and Paleontological Resources	Archaeological and paleontological values will be preserved and protected. Procedures described in 36 CFR 800 will be observed where applicable. A Memorandum of Agreement has been signed by the BLM, The California State Historic Preservation Officer, and for cultural resources the President's Advisory Council on Historic Preservation to protect cultural resources.	Historic properties, if identified on site, shall be protected in accordance with 36 CFR 800 and/or avoided to the extent feasible.
5. Native American Values	Native American cultural and religious values will be preserved where relevant and protected where applicable. Native American group(s) shall be consulted. Memorandums of Agreement and Understandings have been signed between BLM and the Native American Heritage Commission pertaining to Native American concerns and cultural resources.	The BLM will consult with Native American Tribes and the Native American Heritage Commission pursuant to Section 106 of the National Historic Preservation Act.
6. Electrical Generation Facilities	Electric generation plants may be allowed. Existing facilities may be maintained and upgraded or improved in accordance with special use permits or by amendments to rights-of-way.	Not applicable. Electrical generation is not proposed on BLM land.
Nuclear and Fossil Fuel	Not allowed.	Not applicable. Electrical generation is not proposed on BLM land.
Wind/Solar	May be allowed after NEPA requirements are met.	Not applicable. Electrical generation is not proposed on BLM land.
Geothermal	May be allowed pursuant to licenses issued under 43 CFR Section 3250 et seq. NEPA requirements will be met.	Not applicable. Electrical generation is not proposed on BLM land.
7. Transmission Facilities	New gas, electric, and water transmission facilities and cables for interstate communication may be allowed only within designated corridors (see Energy	The gen-tie line is proposed in a designated corridor. NEPA requirements will be met.

Table 1. Multiple Use Class Guidelines Consistency Analysis – Class L Lands		
	Production and Utility Corridors Element). NEPA requirements will be met. Existing facilities within designated corridors may be maintained and upgraded or improved in accordance with existing right-of-way grants or by amendments to right-of-way grants. Existing facilities outside designated corridors may only be maintained but not upgraded or improved.	
7a. Distribution Facilities	New distribution systems may be allowed and will be placed underground where feasible except where this would have a more detrimental effect on the environment than surface alignment. In addition, new distribution facilities shall be placed within existing rights-of-way where they are reasonably available. Existing facilities may be maintained and upgraded or improved in accordance with existing right-of-way grants.	Not applicable. Distribution facilities are not proposed.
8. Communication Sites	New sites may be allowed. NEPA requirements will be met. A 30 day public comment period is required for environmental assessments for long distance line-of-sight communication systems of three or more sites. Existing facilities may be maintained and utilized in accordance with right-of-way grants and applicable regulations.	The applicant seeks a right-of-way grant to construct a gen-tie including communications equipment. NEPA requirements will be met. Long-distance line-of-sight facilities are not proposed on BLM lands.
9. Fire Management	Fire suppression measures will be taken in accordance with specific fire management plans subject to such conditions as the authorized officer deems necessary, such as use of motorized vehicle, aircraft, and fire retardant chemicals.	Fire prevention best management practices in accordance with state laws and regulations will be implemented. Fire suppression by vehicle, aircraft, and fire retardant is not proposed.
10. Vegetation Harvesting Native Plants	Removal of vegetation, commercial or non-commercial, may be allowed by permit only after NEPA requirements are met and after development of necessary stipulation.	The applicant seeks a right-of-way grant for construction of a gen-tie and access road, including temporary and permanent removal of vegetation. NEPA requirements will be met.
Harvesting by mechanical means	Harvesting by mechanical means may be allowed by permit only.	Not applicable. Vegetation harvesting is not proposed.
Rare, threatened, and endangered species, state and federal	All state and federally listed species will be fully protected. Actions which may jeopardize the continued existence of federally listed species will require consultation with the U.S. Fish and Wildlife Service.	State and federal rare, threatened, and endangered species will be avoided to the extent feasible.
Sensitive plant species (including candidates for listing by FWS; FWS	Identified sensitive species will be given protection in management decisions consistent with BLM policies.	Any identified sensitive plants will be avoided to the extent feasible.

Table 1. Multiple Use Class Guidelines Consistency Analysis – Class L Lands		
Species of Concern; Species on List 2 CNPS, 1980)		
Unusual Plant Assemblages	Identified unusual plant assemblages will be considered when conducting all site-specific environmental impact analyses to minimize impact. See also Wetland/Riparian Areas guidelines.	Any identified unusual plant assemblages will be avoided to the extent feasible.
Vegetation Manipulation 1. Mechanical Control	Mechanical control will not be allowed.	Not applicable. Mechanical control is not proposed.
2. Chemical Control	Aerial broadcasting application of chemical controls will not be allowed. Noxious weed eradication may be allowed after site-specific planning. Types and uses of pesticides, in particular herbicides, must conform to federal, state, and local regulations.	Aerial application of chemical controls is not proposed. Herbicides will be used subject to existing laws, regulations, and a BLM approved weed management plan.
3. Exclosures	Exclosures may be allowed.	Not applicable. Vegetation exclosures are not proposed.
4. Prescribed Burning	Prescribed burning may be allowed after development of a site-specific management plan.	Not applicable. Burning is not proposed.
11. Land Tenure Adjustment	Public land will not be sold.	Not applicable. Land acquisition is not proposed.
12. Livestock Grazing	Grazing will be allowed subject to the protection of sensitive resources. Support facilities such as corrals, loading chutes, water developments, and other facilities, permanent or temporary, may be allowed consistent with protection of sensitive resources. Manipulation of vegetation by chemical or mechanical means will not be allowed, except for site-specific needs. (See Vegetation Element.)	Not applicable. No grazing is proposed.
13. Mineral Exploration and Development	Leasable Minerals: Except as provided in Appendix 5.4, 516, DM 6, NEPA procedures titled “Categorical Exclusions”, prior to approving any lease, notice, or application that was filed pursuant to 43 CFR 3045, 3100, 3500, and S.O. 3087, as amended, an EA will be prepared on the proposed action. Mitigation and reclamation measures will be required to protect and rehabilitate sensitive scenic, ecological, wildlife, vegetative, and cultural values. Locatable Minerals: Location of mining claims in nondiscretionary. Operations on mining claims are subject to the 43 CFR 3809 Regulations and applicable state and local law. NEPA requirements will be met. BLM will review plans of	Not applicable. No mineral exploration/extraction is proposed.

Table 1. Multiple Use Class Guidelines Consistency Analysis – Class L Lands		
	operations for potential impacts on sensitive resources identified on lands in this class. Mitigation, subject to technical and economic feasibility, will be required. Saleable Minerals: Except as provided in Appendix 5.4, 516 DM 6, NEPA Procedures titled "Categorical Exclusions", new material sales locations, including sand and gravel sites, will require an EA. Continued use of existing areas of sand and gravel extractions is allowed subject to BLM permits as specified in 43 CFR 3600.	
14. Motorized Vehicle Access/Transportation	New roads and ways may be developed under right-of-way grants or pursuant to regulations or approved plans of operation. Motorized vehicle use will be allowed on existing routes of travel until designation of routes is accomplished. Vehicle use on some significant dunes and dry lakebeds is allowed (see Motorized Vehicle Access Element.) Periodic or seasonal closures or limitations of routes of travel may be required. Access will be provided for mineral exploration and development.	The Applicant seeks a right-of-way grant for construction of a gen-tie line and associated access/service road.
Railroads	Railroads and trams may be allowed to serve authorized uses if no other viable alternative is possible.	Not applicable. No railroad is proposed.
Aircraft	Temporary landing strips may be allowed by permit.	Helicopters will be staged off site, and no landing areas will be required on BLM land.
15. Recreation	This class is suitable for recreation which generally involves low to moderate user densities. Recreation opportunities include those permitted in Class C: land sailing on dry lakes, non-competitive vehicle touring and events only on "approved" routes of travel. All organized vehicle events, competitive or not, require a permit specifying the conditions of use. These conditions will include, but are not limited to: approved routes, no pitting, start, finish or spectator areas. Permanent or temporary facilities for resource protection and public health and safety area allowed. Trails are open for non-vehicle use and new trails for non-motorized access may be allowed.	Not applicable. No recreation is proposed.
16. Waste Disposal	Hazardous waste disposal sites will not be allowed. New non-hazardous waste disposal sites will not be allowed.	Not applicable. No waste site is proposed.

Table 1. Multiple Use Class Guidelines Consistency Analysis – Class L Lands		
17. Wildlife Species and Habitat Rare, Threatened, and Endangered Species (both state and federal)	All state and federal listed species and their critical habitat will be fully protected. Actions which may affect or jeopardize the continued existence of federally listed species will require formal consultation with the U.S. Fish and Wildlife Service in accordance with Section 7 of the Endangered Species Act.	BLM will consult with the U.S. Fish and Wildlife Service regarding incidental take of state and federally threatened desert tortoise and habitat.
Sensitive Species	Identified species will be given protection in management decisions consistent with BLM policies.	Sensitive species will be avoided to the extent feasible.
Predator and Pest Control	Control of depredation wildlife and pests will be allowed in accordance with existing state and federal laws.	Noxious weed control best management practices will be employed, and the project will be designed to ensure minimal perching opportunities for ravens. The project will not attract pests.
Habitat Manipulation	Projects to improve wildlife habitat may be allowed subject to environmental assessment.	Not applicable. Habitat improvement is not proposed on site.
Reintroduction or Introduction of Established Exotic Species	Reintroduction or introduction of native species or established exotic species is allowed.	Best management practices will ensure introduction of new exotic species will not occur.
18. Wetland/Riparian Areas	Wetland/riparian areas will be considered in all proposed land-use actions. Steps will be taken to provide that these unique characteristics and ecological requirements are managed in accordance with Executive Order 11990, Protection of Wetlands (42 CFR 26951), legislative and Secretarial direction, and BLM Manual 6740, "Wetland Riparian Area Protection and Management" (10/1/79), as outlined in the Vegetation Element.	The proposed gen-tie will span Pine Tree Canyon Wash and will minimally affect vegetation near the Wash. Wetlands will not be affected by the project.
19. Wild Horses and Burros	Populations of wild and free-roaming horses and burros will be maintained in healthy, stable herds in accordance with the Wild and Free-Roaming Horse and Burro Act of 1971 but will be subject to controls to preotect sensitive resources. (See Wild Horse and Burro Element.)	No wild or free-roaming horses or burros are known in the gen-tie area. The project will not affect horses or burros.

4.3 Land Ownership and Surrounding Uses

Figure 6 shows the land ownership status of the project area and surrounding lands. As shown, the planned solar facility is located entirely on private lands. The gen-tie alternative alignments are comprised of public and/or private lands, depending on the alternative, as summarized in Table 2. Table 2 identifies the length in miles and the size of the required ROW (and/or private easement) in acres for each alternative; it does not identify disturbance acreages.

Table 2. Gen-Tie Land Ownership, All Alternatives

Alternative	Federal Lands (miles, acres)	Private/LADWP Lands (miles, acres)	Total (miles, acres)
Alternative 2 (Preferred Alignment)	1.5, 43.0	0.5, 22.8	2.0, 62.1
Alternative 3 (Alternative BLM Land)	1.4, 40.4	0.5, 22.8	1.9, 63.2
Alternative 4 (Private Land Only)	0.0, 0.0	3.5, 116.0	3.5, 116.0

The southeast corner of the private parcel on which the planned solar facility would be sited is diagonally traversed by California State Route 14 (SR-14), which lies within a Caltrans right-of-way (ROW) approximately 410 feet in width. The northwestern corner of the parcel is diagonally traversed by several electric transmission line ROWs, one of which is occupied by the Bonneville Power Administration's and LADWP's Pacific Direct Current Intertie 500 kV transmission line and LADWP's existing 230 kV Barren Ridge-Rinaldi Transmission Line. This ROW currently contains the two transmission lines and a service road, and is 250 feet in width. An adjacent 200-foot-wide ROW has been granted by the BLM to LADWP for the planned 230 kV Barren Ridge Renewable Transmission Project.

With the exception of the aforementioned SR-14 highway and LADWP transmission lines, the entire area within and around the solar facility site and the gen-tie alternative alignments is vacant land. No residences, outbuildings, or similar structures are present in the area. A number of designated but unimproved BLM routes pass through the area of the proposed and alternative gen-tie alignments, and some undesignated OHV routes are also present.

5. PROJECT DESCRIPTION

The proposed gen-tie involves an approximately 2.0-mile gen-tie line from an approved solar energy facility on private land in unincorporated Kern County to an existing substation owned by LADWP. The approved solar facility would consist of the following components: 1) a solar field of photovoltaic (PV) panels; 2) an electrical collection system; 3) an interconnection substation; and 4) other infrastructure such as roads and fences. The approved solar facility would be located entirely on private land and is not within the purview of the BLM's jurisdiction. The solar facility does not meet the definition of a "connected action" under NEPA. Actions are "connected" if they:

1. Automatically trigger other actions that may require an EIS;
2. Cannot or will not proceed unless other actions are taken previously or simultaneously; or

3. If the actions are interdependent parts of a larger action and depend upon the larger action for their justification (40 CFR 1508.25 (a)(i, ii, iii)).

With regard to item 1, above, the proposed gen-tie line on BLM land would not automatically trigger construction of the solar facility or vice versa. Permits for the solar facility have been obtained from Kern County and other agencies with jurisdiction over the solar facility.

With regard to item 2, above, construction of the solar facility cannot proceed without interconnecting to the statewide electrical grid; however, the solar facility is not dependent on the proposed gen-tie line across federal land. A private land alternative is feasible (as described below). Therefore, the solar facility can proceed without BLM's approval of the proposed gen-tie line across federal land, and the BLM does not have authority to prevent the impacts of the solar facility.

With regard to item 3, above, the solar facility does not depend on the approval of the BLM ROW grant for its justification because a private land gen-tie alternative is feasible.

The solar facility is evaluated appropriately as a "cumulative action" under NEPA (40 CFR 1508.25(a)(2)). Therefore, the project description information presented below relates only the proposed and alternative gen-tie lines.

6. ELEMENTS COMMON TO ALL ALTERNATIVES

The energy generated by the solar facility would be sold to LADWP under a long-term power purchase agreement (PPA). The gen-tie line would provide a direct interconnection with LADWP's existing Barren Ridge Switching Station, located approximately 2 miles north of the solar facility site.

6.1 Gen-Tie Components

The primary components of Alternatives 2, 3, and 4 on BLM and private lands would include the following items. Sections 7, 8, and 9 disclose differences between alternatives, and Section 10 provides a comparison between the alternatives.

6.1.1 Transmission Support Structures and Conductors

Transmission support structures would consist of wooden H-frame and triple-pole structures measuring 80 to 100 feet above grade and/or steel lattice towers measuring 100 to 120 feet above grade. Each alternative would require lattice towers on either side of Pine Tree Canyon Wash. Each tower would be mounted on four separate concrete foundations, one for each of the tower's four legs. The span distance between the two towers on either side of the wash would be approximately 1,700 feet. The distance between the remaining lattice structures would be approximately 1,100 feet. The lattice towers would be of similar appearance to the existing LADWP towers west of the RE Cinco gen-tie alternatives.

The wooden H-frame and triple-pole structures would be embedded to a depth of 15 to 30 feet beneath the ground surface. Structures would be spaced approximately 700 to 1,100 feet apart, but this spacing could vary slightly based upon terrain factors.

Minimum conductor clearance with respect to wind, voltage, structural span and height would follow California Public Utilities Commission (CPUC) guidelines. Depending on the result of consultation with the Federal Aviation Administration (FAA) and the United States Fish and Wildlife Service (USFWS), aviation safety marker balls and/or bird flight diverters may be installed on mid-span conductor segments.

The gen-tie would also incorporate an optical ground wire (OPGW) for protection and control communications between the solar site and the Barren Ridge Switching Station. The OPGW would be supported by the same structures as the main power conductors.

Required upgrades to equipment at the Barren Ridge Switching Station would occur within the existing and/or previously approved expansion of the switching station fence line on private lands.

6.1.2 Gen-Tie Service Road

Access to the gen-tie would be provided via a new dirt maintenance road that would extend along the alignment and/or short spur roads off of a shared dirt maintenance road, depending on the alternative (described further in Sections 7, 8, and 9). The roadway would not be constructed across Pine Tree Canyon Wash, but would instead terminate at either side of the wash with a vehicle turnaround. This access road design is intended to minimize impacts to surface hydrology and vegetation across BLM-managed lands. The roadway would be accessed from its southern and northernmost ends via existing open roadways on BLM lands that currently cross the proposed alignment, and also from Pine Tree Canyon Road. All new dirt maintenance roads would be 12 feet in width, and would be located entirely within the 150-foot ROW. Spur roads would extend beyond the linear portion of the ROW and into a portion of the proposed ROW that would overlap with LADWP's existing ROW across federal lands.

6.2 Gen-Tie Construction

Construction of the gen-tie line would begin with construction of the service road and/or spur roads. The roadway would be constructed with bulldozers and graders, and then compacted to the extent required to ensure stability. Associated spoils would be pushed to the sides of the roadway. Any earthen berms thus created would be rounded off so as not to inhibit travel by desert tortoise. The road would be 12 feet in width with a maximum disturbance of 20 feet in width.

Installation of the gen-tie line would require temporary 60-foot radial work areas around each structure location. These work areas would be cleared of vegetation. Each wooden structure would be set within an augered hole or concrete foundation. Holes would be excavated using a truck-mounted drill rig. Poles would be delivered on a flat-bed trailer and hoisted into place by a crane. The annular space between poles and holes would be backfilled with concrete or soil. Resultant spoils would be spread around the work area. Lattice towers would be mounted on concrete piers, with holes for the piers excavated using a truck-mounted drill rig. The lattice towers would be delivered to the site via truck and assembled on-site.

Multiple pull sites would be required for installing conductors. The pull sites would measure approximately 100 feet by 450 feet, and would be located within and adjacent to the service road. Conductors would be strung between poles and towers with heavy duty trucks, except for the span

between the towers on either side of Pine Tree Canyon Wash, which would be strung with a helicopter or by dragging the conductor to avoid large-scale disturbance through the wash.

After conductors have been pulled into place, the conductor sag between the structures would be adjusted to a precalculated level and the line would then be set with a minimum ground meeting applicable CPUC requirements. The conductors would be attached to the end of each insulator, the sheaves removed, and the vibration dampers and other accessories installed. This work would be performed by ground crews.

Construction of the gen-tie line is anticipated to require 3 to 4 crews, consisting of linemen, electricians, laborers and operators, totaling 20 to 30 personnel. The installation would take place on weekdays and would not require overtime work or weekend work. Minimal clearing and grading would be required for installation of the gen-tie line, with permanent disturbance limited to the area immediately surrounding each structure and the 12-foot-wide unimproved service road along the alignment. The duration of helicopter use would be several hours on a single construction day, if required at all.

Construction equipment that would be used during construction of the gen-tie line and service road are summarized in the table below.

Table 3. Gen-Tie Line Construction Equipment

Equipment Type	Quantity
Bulldozer	2
Grader	2
Front End Loader	1
Compactor	1
Skid Steer	2
Drill Rig	1
Crane	1
Lift Truck	1
Water Truck	2
Miscellaneous heavy and medium-duty vehicles	2
Miscellaneous light-duty vehicles (pickups, etc.)	6
Helicopter	1

Water would be used for dust suppression during gen-tie line construction. Water would be obtained from an off-site water purveyor and trucked in from approximately 10 miles away. No groundwater would be used for construction or operation of the gen-tie line.

6.3 Gen-Tie Operation

The gen-tie would operate continuously throughout the life of the solar project. Once constructed, activities associated with the gen-tie would be restricted to inspection and occasional maintenance and repair. Operational activities are described below.

6.3.1 Gen-Tie Line Inspections

Bi-annual visual inspections would be conducted via ground-based line patrols, including visual inspections of insulators, overhead grounds, and tower hardware. Line patrols would also perform trash removal services. Infrared scanning of insulators, overhead grounds and hardware would be performed during initial start-up, at end of the first year, and subsequently every 3 years through the life of the project. Infrared scanning would be performed from the ground using a camera with telephoto capabilities.

Insulator washing is usually only necessary in areas of high contamination. Based on the location of the site and assuming insulators are not porcelain, washing to prevent potential flashover conditions is not expected to be necessary.

6.3.2 Service Road Maintenance

The gen-tie service road would be periodically graded to maintain adequate access. Grading would only occur after a large storm event that resulted in loss of integrity of the roadbed or inadequate access to the gen-tie facilities.

6.3.3 Safety

A baseline health and safety compliance and risk assessment would be conducted by an appropriately qualified body to identify key risks and compliance obligations. The assessment would also include the review and evaluation of existing procedures, work practices, and other controls, and would result in recommendations for corrective actions as needed for compliance with local, state, and federal regulations and guidelines. A site-specific hazard identification and health and safety planning and management program would then be established and documented, including, but not limited to, the following areas:

- Hazardous Energy Control and Electrical Safety Programs
- Hazard Communication Program
- Personal Protective Equipment (PPE) guidelines and protocols
- Emergency Management (fire, earthquake, weather, etc.) Program
- Response to emergency situations
- Natural Hazards (plants, animals, insects) Management Procedure

Training would be provided to all relevant personnel on all aspects of the health and safety program, including appropriate responses to non-hazardous and non-life threatening situations in the construction and operational phase.

6.3.4 Industrial Wastes and Toxic Substances

Hazardous materials would not be used or stored along the gen-tie line, but hazardous materials spill kits would be carried in vehicles for any small spills that could occur. Hazardous materials would not be disposed of or released onto the ground, underlying groundwater, or any surface water. Fully enclosed containment would be provided for all trash. All construction waste, including trash, other solid waste, petroleum products and other potentially hazardous materials, would be removed to a hazardous waste facility permitted or otherwise authorized to treat, store, or dispose of such materials.

6.3.5 Weed Management

CPUC GO 95 requires vegetation management around transmission structures to ensure safety and access for emergency work. A working zone around all transmission structures is required, and the zone would be kept clear of tall vegetation or other obstructions for purposes of inspection and maintenance, in compliance with applicable environmental regulations. All vegetation that may interfere with access to structures would be trimmed or removed as necessary.

Based upon the aridity of the project area and the overall low densities of vegetation present, it is not likely that vegetation would encroach upon structures in such a manner that access would be impaired. However, noxious weeds could create a fire hazard if allowed to become established, and invasive weeds could also become problematic from a biological perspective. Therefore, a Weed Management Plan would be prepared and implemented, as needed.

The Weed Management Plan would include the discussion of methods for Hand Control and Herbicide Control. The discussion for Hand Control would include the use of hand tools such as shovels or hoes. The Plan would also discuss Herbicide Control, with details on the specific herbicides that would be used, the application rates, and the measures that would be used to minimize impacts to biological resources. Herbicides would be necessary to control the spread of invasive weeds following construction disturbance as part of an integrated pest management strategy. All components of the Plan would comply with the requirements of the Record of Decision for the 2007 Vegetation Treatments Using Herbicides Programmatic EIS. The Herbicide Control portion of the Plan would include, but would not be limited to, the following:

- Herbicide proposed for use on the project would be limited to the Monsanto glyphosate products Roundup PRO ® or AquaMaster® herbicides, with Roundup PRO applied in the upland portions of the ROW and AquaMaster applied in the wetland areas.
- Herbicide would only be applied by hand from a backpack sprayer or a truck-mounted spray rig. The spray rig would utilize individual lines that are applied directly by hand and would not use a truck mounted boom sprayer.
- The maximum rate of application for Roundup would be 10.6 quarts/acre/year and 8 quarts/acre/year for AquaMaster.
- The intended rate of application is 2 percent solution for Roundup and 1.5 percent solution for AquaMaster.

- Application dates would be intended for a full 5-year weed control program, beginning during the construction phase, if needed.
- Treatments would be as needed, upon emergence of the target weed species during the growing seasons. Growing seasons are typically during the winter months (November to April), but may include the summer months (July-September) if summer rainfall is sufficient to germinate target weed species during those months.
- The total number of applications is dependent upon the extent of weeds within the disturbance areas, but it is expected that 3 or more treatment efforts would be required. Treatment efforts can be defined as one round of complete coverage for the entire gen-tie ROW within BLM lands. Rainfall amounts would determine the number of treatment efforts that would be needed but it is assumed there would be weed control visits conducted no more than once a month during the winter spring season. Based on these basic assumptions (3 visits per year for 5 years), there would be a maximum of 30 annual treatments for the gen-tie ROW during the 5-year period.
- The primary non-native species to be targeted are Saharan mustard (*Brassica tournefortii*), Russian thistle (*Salsola tragus*), Mediterranean grass (*Schismus spp.*), and storksbill (*Erodium spp*.). Additional non-native plant species may be identified during monitoring efforts, and these would also be targeted for control efforts.
- Crews that conduct weed treatment on the project would have extensive experience working on sensitive habitats and species. In addition, crews would be monitored by a restoration ecologist as well as a desert tortoise monitor. Weed control would be specifically applied to individual plants and not sprayed broadly across the project area.
- Crews would work under the direct supervision of a licensed Certified Pesticide Applicator.
- Crews would adhere to strict application guidelines when applying herbicide during wind to minimize drift and chemical contact with non-target vegetation or wildlife. Herbicide application would be suspended if winds are in excess of 6 MPH, or if precipitation is occurring or imminent (predicted within the next 24 hours).
- The chemicals chosen (glyphosates) have been identified for use due to low likelihood of toxicity on wildlife species, in particular desert tortoise (*Gopherus agassizii*). The potential for ingestion of recently treated plants is present, however the presence of an onsite restoration ecologist and tortoise-specific monitors would minimize this risk. After treatment, the herbicide would dry rapidly in the desert environment and the risk would be further minimized.

6.4 Operational Termination and Site Restoration

6.4.1 High Voltage Generation Tie Line Restoration

It is anticipated that the life of the PPA will be between 20 and 35 years, while the life of the proposed solar facility will be at least 35 years. Following the expiration of a shorter duration PPA for the solar facility, the project owner could choose to enter into subsequent PPA, update the technology and re-

commission the facility (including obtaining all environmental entitlements including a new or extended ROW Grant), or decommission and remove the system and its components.

The gen-tie line would be located on a combination of public and private lands, depending on the alternative implemented. Upon a decision to decommission the solar site, the gen-tie line would also be decommissioned. All conductors and poles would be removed and hauled offsite for scrapping or to an approved landfill. A collection and recycling program would be implemented to promote recycling of project components and minimize disposal of project components in landfills.

For any new linear service road constructed by the RE Cinco Project on public lands, the BLM would determine, at its discretion or in accordance with currently-adopted law or policy, if it would like the service road to remain open to limited or general public use or if it would like the road to be closed. Generally, roadways on BLM lands are allowed to remain in use, but occasionally management requirements and land use goals require that the roadway be blocked and allowed to revert to natural conditions. In some cases, roadways are restored to pre-use conditions immediately upon closure. Sometimes, just the beginning portions of a roadway are restored to disguise the roadway's former use and to thus discourage future public use. Under this scenario, remaining segments not readily visible from a public roadway would be allowed to revert naturally to pre-use conditions. If the BLM determines that it would like all or portions of the road to be closed and restored, a specific plan for restoration of the involved public lands would be prepared. The plan would be submitted to the BLM for approval and would address the removal of any gates, wash crossings, or other structures and the return of the site to pre-use conditions. If Alternative 2, the Preferred Alternative, is selected for approval by the BLM, the RE Cinco Gen-tie ROW Grant would include use and maintenance of an existing, shared service road that is also an open OHV route. In this case, Project decommissioning would not include decommissioning and restoration of the service road, as this road is anticipated to continue to be used by LADWP and recreational OHV users in the future.

All equipment and materials used during active operations would be removed and salvaged for other uses or disposed of at an approved disposal site. Topographic landform features would be restored to pre-project construction contours or as approved by the BLM. Any soils disturbed in the process of decommissioning would be stabilized using a BLM-approved small rock or gravel surface covering.

For those portions of any approved service road on private lands, the private landowner would determine if it would like the service road to remain open to limited or general public use or if it would like the road to be closed. If the decision were made to close the road, a restoration plan similar to that described for public lands would be implemented.

7. ALTERNATIVE 2 (PREFERRED ALIGNMENT)

Alternative 2 (Preferred Alignment) would route the gen-tie primarily over public lands from the solar facility to the Barren Ridge Switching Station, paralleling existing and planned LADWP transmission lines and sharing a primary service road with those existing facilities.

Figure 4 shows the proposed alignment for the Alternative 2 gen-tie route. Detailed design information concerning the preferred alignment gen-tie can be found in Attachment A of this POD. The table below summarizes the public and private lands that would be crossed by the Alternative 2 gen-tie alignment.

Table 4. Gen-Tie Land Ownership, Alternative 2 (Preferred Alignment)

Alternative	Federal Lands (miles)	Private/ LADWP Lands (miles)	Total (miles)
Alternative 2 (Preferred Alignment)	1.5	0.5	2.0

The ROW for the alignment would be generally 150 feet in width plus radial areas at each turn in the alignment and a separate ROW area for a shared service road and new spur roads. The ROW would accommodate the 230 kV gen-tie line, shared service road, new spur roads, and all other areas of temporary disturbance. The alignment would exit the private land solar facility at the northwest corner of the site onto BLM lands. Once on BLM lands, the alignment would travel north-northeasterly to parallel the existing and planned LADWP high-voltage transmission lines for approximately 1.2 miles before crossing the broad alluvial channel of the ephemeral Pine Tree Canyon Wash. The alluvial channel of the wash is approximately 0.25 miles in width. There is no principal channel. Flows are infrequent, and the active channels appear to shift regularly. Across the wash, the alignment would enter private lands for 0.1 miles before re-entering BLM lands for another 0.3 miles.

After crossing Pine Tree Canyon Wash, the alignment would turn east and then north to enter private lands. From this point northwards to the existing LADWP Barren Ridge Switching Station, the alignment would travel through non-federal lands only. Two private parcels and one parcel owned by LADWP would be used for the northern portion of the Alternative 2 gen-tie alignment, which would travel approximately 0.4 miles in a northerly direction, across Pine Tree Canyon Road (which is a private extension of BLM Route MK55) before entering the Barren Ridge Substation.

For the length of the alignment that is collocated with the LADWP ROW, the LADWP access road would be shared, and only short spur roads would require construction between the existing access road and the Alternative 2 transmission structures.

It is anticipated that up to 5 acre feet of water would be required for the 6-month duration of construction of Alternative 2.

Table 1 details the temporary and permanent disturbance associated with Alternative 2 with either technology Option A or Option B, as described below.

Table 5. Gen-Tie Disturbance Areas, Alternative 2 (Preferred Alignment)				
Alternative 2 with Option A				
Project Component	**Permanent Disturbance (acres)**		**Additional Temporary Disturbance (acres)**	
	Federal Lands	**Private/ LADWP Lands**	**Federal Lands**	**Private/ LADWP Lands**
Service or Spur Roads*	1.5	0.6	n/a	n/a
Support Structures	<0.1	<0.1	14.2	15.9
Pull Sites	n/a	n/a	18.8	14.1
SUBTOTAL	**1.5**	**0.6**	**33.0**	**30.1**
TOTAL	**2.1**		**63.1**	
Alternative 2 with Option B				
Project Component	**Permanent Disturbance (acres)**		**Additional Temporary Disturbance (acres)**	
	Federal Lands	**Private/ LADWP Lands**	**Federal Lands**	**Private/ LADWP Lands**
Service or Spur Roads*	1.0	0.6	n/a	n/a
Support Structures	0.3	0.2	14.2	16.3
Pull Sites	n/a	n/a	18.8	14.1
SUBTOTAL	**1.3**	**0.8**	**33.0**	**30.4**
TOTAL	**2.1**		**63.4**	

* Although new roads would be 12 feet wide, the maximum construction-related disturbance would include a 20-foot width. The entire 20-foot width is considered to be permanent disturbance because roadway maintenance is anticipated throughout the operational phase of the project.

7.1 Option A (Preferred Technology)

Under Option A, the gen-tie would be developed with a combination of wooden H-frame structures, wooden triple-pole structures, and lattice steel towers. If geotechnical conditions allow, the project applicant would prefer to construct the gen-tie with primarily wooden structures, as such structures are both less costly overall and provide a natural visual appearance. Wooden H-frames would be used for tangent poles, wooden triple-pole structures would be used as corner poles, and lattice steel towers would be used on either side of the Pine Tree Canyon Wash to facilitate spanning. Under Option A, up to 13 new spur roads (up to 320 feet in length apiece) would be constructed off of the existing service road that runs alongside the existing LADWP transmission lines. However, the project applicant recognizes that it may be more efficient and visually pleasing to construct the gen-tie in a manner identical to the

planned LADWP Barren Ridge Renewable Transmission Project. For these reasons, Option B is also being considered in detail.

7.2 Option B (Alternative Technology)

Under Option B, the gen-tie would be developed entirely with lattice steel structures, which would be placed adjacent to the planned LADWP Barren Ridge Renewable Transmission Project lattice steel structures at equivalent span distances. The project applicant is in close coordination with LADWP in planning for concurrent and/or overlapping construction of transmission lines. Under Option B, up to 10 shorter (200 feet in length apiece) spur roads would be constructed as extensions of LADWP's planned spur roads to each of its towers. Because of the anticipated timing of construction of both projects, RE Barren Ridge 1 LLC may need to construct LADWP's planned spur roads on LADWP's behalf. For this reason, BLM's Section 7 consultation with the USFWS must cover the impacts of construction of the entire 320 foot length, so the entire length is assumed to be a part of the RE Cinco Gen-tie.

8. ALTERNATIVE 3 (ALTERNATIVE BLM LAND)

Alternative 3 would exit the solar facility in the northeast corner of the solar facility and travel north across BLM lands before rejoining the Alternative 2 alignment just south of Pine Tree Canyon Wash.

Figure 4 shows the proposed alignment for the Alternative 3 gen-tie route, and the table below summarizes the public and private lands that would be crossed.

Table 6. Gen-Tie Land Ownership, Alternative 3

Alternative	Federal Lands (miles)	Private/ LADWP Lands (miles)	Total (miles)
Alternative 3	1.4	0.5	1.9

The ROW for the alignment would generally be 150 feet in width, and would accommodate the 230 kV gen-tie line and a linear service road, plus radial areas at each turn in the alignment. The alignment would enter BLM lands from the northeast corner of the solar facility site and travel briefly northeast, and then due north for approximately 1.2 miles before joining the Alternative 2 alignment to the Barren Ridge Switching Station.

The Alternative 3 gen-tie would be constructed and operated in a similar manner as the Alternative 2 alignment; however, this alignment would require construction of a new, linear service road. It is anticipated that up to 5 acre feet of water would be required for the 6-month duration of construction of Alternative 3.

Table 7 details the temporary and permanent disturbance associated with Alternative 3.

Table 7. Gen-Tie Disturbance Areas, Alternative 3 (Alternative BLM Land)				
Project Component	**Permanent Disturbance (acres)**		**Additional Temporary Disturbance (acres)**	
	Federal Lands	**Private/ LADWP Lands**	**Federal Lands**	**Private/ LADWP Lands**
Service or Spur Roads*	2.6	0.5	n/a	n/a
Support Structures	<0.1	<0.1	18.3	16.2
Pull Sites	n/a	n/a	24.5	14.1
SUBTOTAL	**2.6**	**0.6**	**42.8**	**30.3**
TOTAL	**3.2**		**73.1**	

* Although new roads would be 12 feet wide, the maximum construction-related disturbance would include a 20-foot width. The entire 20-foot width is considered to be permanent disturbance because roadway maintenance is anticipated throughout the operational phase of the project.

9. ALTERNATIVE 4 (PRIVATE/LADWP LANDS ONLY)

Alternative 4 would be located entirely on private and LADWP-owned lands, and would require substantially more infrastructure and disturbance compared with the other alternatives.

9.1 Description of Alternative 4

Figure 4 shows the proposed alignment for the Alternative 4 gen-tie route, and the table below summarizes the ownership of lands that would be crossed.

Table 8. Gen-Tie Land Ownership, Alternative 4			
Alternative	**Federal Lands (miles)**	**Private/ LADWP Lands (miles)**	**Total (miles)**
Alternative 4	0.0	3.5	3.5

The easement area for the alignment would be 150 feet in width plus radial areas at turns in the alignment, and would accommodate the 230 kV gen-tie line and a linear service road. The alignment would leave the solar facility site at the southeast corner and cross above SR-14 traveling in an easterly direction. After approximately 0.6 miles, the alignment would turn northwards, cross above Phillips Road, and then travel northwards for approximately 0.8 miles, whereupon the alignment would parallel SR-14 along its eastern side for approximately 1,200 feet. The alignment would then turn northwesterly, cross over SR-14, and then travel approximately 800 feet before turning north and traveling approximately 1.2 miles. The alignment would cross over Pine Tree Canyon Wash within this segment. After crossing the wash, the alignment would turn east for approximately 850 feet, and then turn north for approximately 2,000 feet before tying in to the switching station.

A total of 19 private parcels and one parcel owned by LADWP would be crossed by the Alternative 4 gen-tie alignment. The indirect route for this alignment and the two crossings of SR-14 are required to avoid public land parcels that lie adjacent to the proposed solar site. The indirect route would accordingly add to the linear distance of the alignment when compared with Alternatives 2 and 3.

The Alternative 4 gen-tie would be constructed and operated in a similar manner as Alternatives 2 and 3, though a greater number of structures and pull sites and a longer access road would be required to be constructed and maintained. It is anticipated that up to 7 acre feet of water would be required for Alternative 4. Approximately 27 support structures plus 2.7 miles of new, linear access roads would be required for construction of Alternative 4.

The alignment would cross over SR-14 twice, which would necessitate the procurement of encroachment permits and easements from Caltrans. Similarly, the Alternative 4 alignment would require easements across 19 individual private land parcels and one parcel held by LADWP.

Table 9 details the temporary and permanent disturbance associated with Alternative 4.

Table 9. Gen-Tie Disturbance Areas, Alternative 4 (Private Land Alignment)

Project Component	**Permanent Disturbance (acres)**		**Additional Temporary Disturbance (acres)**	
	Federal Land	**Private/ LADWP Land**	**Federal Land**	**Private/ LADWP Land**
Service or Spur Roads*	0	7.1	n/a	n/a
Support Structures	0	0.1	0	60.9
Pull Sites	n/a	n/a	0	65.1
SUBTOTAL	**0**	**7.2**	**0**	**126.0**
TOTAL	**7.2**		**126.0**	

* Although new roads would be 12 feet wide, the maximum construction-related disturbance would include a 20-foot width. The entire 20-foot width is considered to be permanent disturbance because roadway maintenance is anticipated throughout the operational phase of the project.

10. ALTERNATIVE GEN-TIE ALIGNMENTS CONSIDERED BUT NOT CARRIED FORWARD

A number of alternatives for the gen-tie line were considered to connect the solar facility with the Barren Ridge Switching Station. Each was eliminated from detailed analysis based upon constraints imposed by existing land use and ownership, policy restrictions, or implementation constraints. These are summarized below.

10.1 Direct Connection to LADWP Transmission Lines Alternative

This alternative (see Figure 4) would connect directly to the existing 230 kV LADWP lines running through the northwest corner of the solar facility private parcel. While this option would eliminate the need for a separate gen-tie, it would require construction of a large, breaker and a half substation on the solar facility site, which would increase the impermeable surface area at the solar facility site, increase the visual contrast of the solar facility in the landscape, and increase the pieces of construction equipment that would be required to construct the facility. In addition LADWP's Transmission Planning Department policies do not permit a private interconnector to tap LADWP lines. Therefore, this alternative is infeasible because it would depend upon LADWP permitting a private interconnector to tap its lines or to locate facilities on its towers, and LADWP's Transmission Planning Department has explicitly stated that this violates LADWP policies and is infeasible. As such, this alternative was eliminated from further consideration. A letter confirming the infeasibility of this alternative has been requested from LADWP and will be provided to the BLM upon receipt.

10.2 Shared Poles and Towers Gen-tie Alternative

This alternative would place the project gen-tie on the existing or planned LADWP transmission structures. LADWP policies prohibit third parties from placing conductors and other equipment on LADWP transmission facilities. In addition, it is currently understood that there is a lack of vacancies on the existing and planned poles for additional conductors, and that there may be a mismatch between the existing and planned pole integrity and the weight of an additional conductor. A letter confirming the infeasibility of this alternative has been requested from LADWP and will be provided to the BLM upon receipt.

10.3 Shared ROW Alternative

This alternative would place the project gen-tie on new poles within the LADWP existing or planned right-of-way easement with access to the project gen-tie via the LADWP existing access road. This would require placement of a new tower in Pine Tree Canyon Wash, resulting in increased impacts on surface hydrology relative to Alternatives 1, 2, and 3. It is currently understood that there is a lack of adequate right-of-way width to ensure compliance with California Public Utilities Commission General Order 95 standards if additional poles were to be placed in the LADWP existing or planned ROW. A letter confirming the infeasibility of this alternative has been requested from LADWP and will be provided to the BLM upon receipt.

10.4 Parallel LADWP ROW Alternative

This alternative would be similar to Alternative 2, but rather than diverging from Alternative 2 south of Pine Tree Canyon Wash the alignment would parallel the LADWP ROW all the way north to the Barren Ridge Switching Station. While this alternative would provide a greater degree of transmission line consolidation than Alternative 2, it would require crossing a privately owned parcel (APN 46929004) south of the LADWP Barren Ridge Switching Station. Despite the Applicant's repeated efforts, acceptable easement terms have not been achievable for this property rendering this alternative infeasible. In addition, given the substantial required separation between high-voltage transmission lines in this

corridor, this alternative would result in only a marginally greater line consolidation compared with Alternative 2. For these reasons, this alternative was eliminated from further consideration.

10.5 Combination Gen-Tie within Caltrans ROW and Private Lands Alternative

This alternative (see Figure 4) would route the gen-tie line along SR-14 on its eastern side. The majority of this route would run within an existing transportation ROW controlled by Caltrans and would also require the acquisition of easements from LADWP and two private landowners along the northern segment of the alignment. A small section of BLM lands would also be crossed. This route is the longest of the five routes considered. Caltrans has given the Applicant notice that this route is not viable due to existing Caltrans policies that limit private developers from running transmission lines longitudinally through public transportation ROWs. In addition to Caltrans policy restrictions, this alternative would have the most prominent visual impacts and the longest path, thereby resulting in the greatest ground disturbance area. Based upon these factors, this alternative was eliminated from further consideration.

10.6 Double-circuit Support Structures for Future Renewable Generators Alternative

Recurrent Energy was contacted by Celtic Energy, a developer of wind and solar PV projects, to ensure compatibility of the RE Cinco Project with other renewable energy projects in the area. Celtic Energy communicated plans to develop projects both adjacent to the RE Cinco Gen-tie and south of the RE Cinco solar facility on federal lands. Recurrent Energy, it its commitment to being a good tenant in the CDCA, has modified its preferred alignment to be as close to existing and planned transmission lines without violating structure spacing rules issued by the CPUC. Celtic Energy has also inquired about the possibility of the RE Cinco Gen-tie being developed with double circuit transmission support structures in order to accommodate a potential future circuit from the south into the Barren Ridge Switching Station. The project applicant would be pleased to accommodate other projects. However, in order for double-circuit structures to be financially feasible, a mutually agreeable cost sharing arrangement is necessary prior to project development. No such arrangement is anticipated prior to project construction despite Recurrent Energy's coordination with this entity, and no such request has been made from any other entity. Therefore, this alternative was not considered forward for detailed analysis.

11. COMPARISON OF ALTERNATIVES

Table 10 compares Alternatives 2 through 4 in terms of acres of ROW required, acres of permanent disturbance, and acres of temporary disturbance. As shown, Alternative 2 (Preferred Alignment) requires the least overall disturbance to both public and private lands compared with the other alternatives. Adverse environmental effects generally increase with increasing temporary and permanent land disturbance, including those related to air quality, special-status species habitat, and unknown cultural and paleontological resources.

Table 10. Comparison of Action Alternatives						
Alternative	**ROW/Easement Requirement (acres)**		**Permanent Disturbance (acres)**		**Additional Temporary Disturbance (acres)**	
	Federal Land	**Private/ LADWP Land**	**Federal Land**	**Private/ LADWP Land**	**Federal Land**	**Private/ LADWP Land**
Alternative 2 (Option A)	43.0	22.3	1.5	0.7	33.0	30.1
Alternative 2 (Option B)	43.0	22.3	1.3	0.8	33.0	30.4
Alternative 3	40.4	22.8	2.6	0.6	42.8	30.3
Alternative 4	0.0	116.0	0.0	7.2	0.0	126.0

12. FINANCIAL AND TECHNICAL CAPABILITY OF THE APPLICANT

Recurrent Energy has one of the largest solar photovoltaic development portfolios in North America, including a 2 gigawatt pipeline, more than 700 MW of contracted projects, and 260 MW in operating assets. Recurrent Energy has secured $3 billion in project financing to date from leading financial lenders and investors in the energy sector. Recurrent Energy has proven access to capital through a network of financial partners that enables the delivery of utility solar at any scale. Recurrent Energy has a seasoned leadership team with experience in conventional and renewable power businesses, as well as strong technology and supply chain expertise to enable delivery of solar projects at market-leading cost.

13. SUMMARY OF COMPLETED AND PENDING ENVIRONMENTAL STUDIES

RE conducted numerous studies of the solar facility site and gen-tie alignment. These studies, as well as other studies that are currently underway or pending, are listed below. Studies for the proposed solar facility site, which lies immediately adjacent to the proposed gen-tie line and, are therefore indirectly relevant, are also listed.

13.1 Completed Studies for the Planned Solar Facility

- **Biological Field Reconnaissance Survey** (conducted March 19, 2010); **Desert Tortoise and Burrowing Owl Surveys** (conducted September 29-October 3, 2010); **Raptor Surveys** Rincon Consultants. 2011a. *RE Distributed Solar Biological Resources Assessment, Kern County, California*. May.
- **Supplemental Biological Results: RE Rosamond One and Two, RE Barren Ridge 1.** Rincon Consultants. 2011b. *RE Distributed Solar Biological Resources Assessment, Kern County, California*. August.
- **Construction and Operational Air Quality Emissions Estimates.** Rincon. 2011. *Air Quality and Greenhouse Gases Technical Report, RE Distributed Solar, Kern County, California.* March.

- **Construction Trip Generation.** LSA Associates, Inc. 2011. *Recurrent Energy (RE) Barren Ridge Solar: Construction Trip Generation*. March 18.
- **Cultural Resources Study.** Hudlow, Scott. 2011. *A Phase I Cultural Resource Survey for Seven Kern Desert Solar Farm Sites, Kern County, California*. May.
- **Formal Jurisdictional Delineation** (conducted April 8 and 9, 2011). AECOM. 2011. *Barren Ridge Photovoltaic Electrical Generation Facilities Jurisdictional Delineation Letter Report*. May 15.
- **Hydrology Study.** AECOM. 2011. *Preliminary Hydrology and Hydraulics Study for Barren Ridge, RE Barren Ridge 1 LLC.* September 20.
- **Rare Plant Study.** Fall 2013 (AECOM report pending completion of Spring 2014 surveys).
- **Water Supply Assessment.** Terra Nova Planning and Research, Inc. 2011. *Water Supply Report for Kern County RE Distributed Project Sites.* June 23.

13.2 Completed Studies for Alternative 3

- **Biological Field Reconnaissance Survey** (conducted March 19, 2010); **Desert Tortoise and Burrowing Owl Surveys** (conducted September 29-October 3, 2010); **Raptor Surveys** Rincon Consultants. 2011a. *RE Distributed Solar Biological Resources Assessment, Kern County, California*. May.
- **Supplemental Biological Results: RE Rosamond One and Two, RE Barren Ridge 1.** Rincon Consultants. 2011b. *RE Distributed Solar Biological Resources Assessment, Kern County, California*. August.
- **Construction and Operational Air Quality Emissions Estimates.** Rincon. 2011. *Air Quality and Greenhouse Gases Technical Report, RE Distributed Solar, Kern County, California.* March.
- **Construction Trip Generation.** LSA Associates, Inc. 2011. *Recurrent Energy (RE) Barren Ridge Solar: Construction Trip Generation*. March 18.
- **Cultural Resources Study.** Hudlow, Scott. 2011. *A Phase I Cultural Resource Survey for Seven Kern Desert Solar Farm Sites, Kern County, California*. May.
- **Formal Jurisdictional Delineation** (conducted April 8 and 9, 2011). AECOM. Results included in applications to State for impacts to jurisdictional features.
- **Rare Plant Study.** Fall 2013 (AECOM report pending completion of Spring 2014 surveys).
- **Water Supply Assessment.** Terra Nova Planning and Research, Inc. 2011. *Water Supply Report for Kern County RE Distributed Project Sites.* June 23.

13.3 Pending Studies for the Planned Solar Facility

- **Updated Cultural Resources Study** (AECOM)
- **Habitat Assessment** (AECOM)

- **Rare Plant Study**, Spring 2014 (AECOM)
- **Visual Resources Assessment** (AECOM)

13.4 Pending Studies for Alternative 3

- **Cultural Records Search** (AECOM)
- **Geotechnical Survey Work** (Stantec)
- **Hydrology Study of Flows Along Gen-Tie Line** (AECOM)
- **Rare Plant Study**, Spring 2014 (AECOM)
- **Visual Resources Assessment** (AECOM)

13.5 Pending Studies for Alternative 2

- **Cultural Resources Study**, 2014 (AECOM)
- **Rare Plant Study**, Spring 2014 (AECOM)
- **Habitat Assessment**, 2014 (AECOM). The Alternative 2 alignment is located west of Alternative 3 within generally the same habitat. Biological resources within the Alternative 2 corridor are anticipated to be very similar to those identified for Alternative 3 during biological surveys. The habitat is homogeneous and the same wildlife species are anticipated to have a similar potential to occur along both alignments. Per discussion with BLM, due to the homogeneous nature of the habitat, protocol wildlife surveys will not be performed along Alternative 2 alignment; however, a general habitat assessment survey will be conducted along the corridor to confirm that the habitat is the same and map resources identified, including vegetation classifications, wildlife observations and sign, and potential jurisdictional waters.

13.6 Pending Studies for Alternative 4

- **Cultural Resources Records Search**, 2014 (AECOM). A pedestrian survey may be conducted along portions of the Alternative 4 alignment if access can be gained from private property owners.
- **Habitat Assessment**, 2014 (AECOM). A habitat assessment may be conducted along portions of the Alternative 4 alignment if access can be gained from private property owners.

14. ENVIRONMENTAL RESOURCES POTENTIALLY AFFECTED

Based upon the studies listed above, as well as information available from other sources, RE has compiled a list of environmental resources that would potentially be affected by the project. The summary below is intended to provide an overview, and is not intended to be exhaustive. Additional study remains ongoing, and any additional resources that would be affected by the project will be identified and evaluated in the formal environmental analysis for the project.

14.1 Site Conditions

Vegetation in the project area is dominated by creosote bush-white burr sage scrub, with disturbed and ruderal areas as associated vegetation types along SR-14, the nearby LADWP transmission corridor, and

dirt roads. Though human use is evident throughout the area, the proposed Alternative 1 gen-tie alignment has been comparatively minimally disturbed by human activity. With the exception of the aforementioned SR-14 highway and LADWP transmission lines, the entire area within and around the proposed gen-tie alignment is vacant land. No residences, outbuildings or similar structures are present in the area. A number of designated but unimproved BLM routes pass through the vicinity, and some undesignated OHV routes are also present.

14.2 Special or Sensitive Species and Habitats

14.2.1 Special Status Plants

No special status plants have been were observed during surveys of the solar site or the Alternative 3 gen-tie alignment during the 2010 vegetation surveys and the 2013 fall rare plant surveys. Based upon this information, special status plants are considered absent from the project area. Rare plant surveys are planned for the Alternative 2 and Alternative 3 alignments in spring, 2014.

14.2.2 Special Status Wildlife

Following is a detailed description of special status wildlife with the highest potential to occur within the project area and vicinity.

Desert Tortoise

The project area provides suitable habitat for desert tortoise. During the 2010 and 2011 surveys, a total of seven desert tortoise observations were made on the solar facility site and along the Alternative 3 gen-tie alignment. Of these, three tortoises were observed on the solar facility site during the 2010 protocol surveys, and three were observed along the gen-tie line during the 2011 protocol surveys. A fourth desert tortoise was incidentally observed along the northern portion of the gen-tie line during the 2011 botanical surveys. Three of these individuals were detected at burrows, all along the gen-tie line. One tortoise-shell skeletal remain was also found in gen-tie line survey corridor. In addition to these sightings, a total of five additional suitable burrows (some with desert tortoise sign) were detected onsite and in the off-site buffers. Desert tortoise sign (scat or tracks) was also detected in open foraging areas not adjacent to burrows at several locations.

Burrowing Owl

The solar facility site and gen-tie line corridors provide suitable habitat for burrowing owl. The site is adjacent to natural areas that provide foraging habitat, and burrows suitable for occupation by burrowing owls were observed both on the project site and along the Alternative 3 gen-tie line route. During the 2010 reconnaissance surveys and 2011 focused surveys for burrowing owls, a total of four burrows or burrow complexes were observed on the main project site and associated survey buffer areas. Fresh burrowing owl sign was detected at one of the burrows in 2011; however, no owls were observed at this burrow. Three of the burrows appear inactive, with evidence of old whitewash and/or pellets with small mammal bones/remains present. Seven other burrows were located with no recent sign of large mammal or burrowing owl activity. The burrow entrances were either partially or completely collapsed by unknown causes, or the entrances were covered with cobwebs, vegetation, or

other debris. Any recent activity at these burrows and/or burrow complexes was due to small mammals or lizards. No burrowing owls were detected during the 2011 Phase III surveys.

Special Status Raptors

The project area provides potential foraging habitat for raptors. Common raptors, such as the red-tailed hawk, could nest in the transmission towers adjacent to the site. No special status raptors were observed within the site or buffer area, and no Swainson's hawk or golden eagle nests are tracked in the vicinity of the project site. A red-tailed hawk nest and several common raven nests were located along the utility towers northwest of the site. An adult red-tailed hawk was observed soaring along the ridgeline west of the site on May 31. A ferruginous hawk (a migratory species that does not breed in Antelope Valley) was briefly observed in April 2011 soaring over the ridgeline northwest of the site, outside the survey area. Golden eagles are known to nest within several miles of the project area, and the species may use the immediate project area for foraging.

Other Sensitive Species and Species of Interest

The project area provides suitable habitat for American badger, and a total of three American badger dens were observed in the vicinity of the project area. One American badger was observed in a burrow west of SR-14 during the 2011 surveys. Four desert kit fox dens were detected, and four pups were observed at one of the burrows in the 2011 surveys. The project site also contains suitable nesting habitat for native birds protected by the Migratory Bird Treaty Act (MBTA) and California Fish and Game (CFG) Code 3503.

14.2.3 Jurisdictional Waters

The approximate 4,200-foot-high mountain feature called "Barren Ridge" located to the west of the solar facility site and gen-tie line route creates an acute topographical divide. This divide supports semi-developed ephemeral dry washes that sustain a limited expanse of alluvial fan scrub and several swale complexes in the area. A formal delineation was conducted for the Alternative 3 gen-tie route alignment in 2012. The delineation resulted in identification of 2.16 acres of potential impacts to waters of the state, mostly within Pine Tree Canyon Wash. This acreage number is based upon a 60-foot-wide impact area, and included a pole structure and the service road within the wash. Actual disturbance would be substantially less, especially if disturbance within Pine Tree Canyon Wash can be fully avoided, as is proposed under Alternatives 2, 3, and 4.

No waters of the U.S. regulated by the U.S. Army Corps of Engineers (USACE) are present within the project area. On October 12, 2011, USACE issued an Approved Jurisdictional Determination (JD) (File No. SPL-2011-00511-BAH) identifying that the solar facility site does not contain waters of the U.S. pursuant to 33 CFR 325.9 and that "a Department of the Army permit pursuant to Section 404 of the Clean Water Act is not required". A similar finding was also made for the Alternative 3 gen-tie alignment.

14.3 Visual Resources

Visual resources in the project area have been affected by past and present actions, including highway/roadway construction and limited industrial, commercial, and residential development. The

viewshed of the area has already been modified with the presence of existing transmission lines, SR-14, and property fencing in the immediate vicinity of the project. The Alternative 1 gen-tie alignment is located within a designated energy transmission corridor, and several existing transmission lines are already present in the area. A Visual Resources Assessment of the project, including visual simulations of the proposed gen-tie, is currently in production. The solar facility will be included as a cumulative project in the visual simulations.

14.4 Cultural Resources

Cultural resources analysis conducted as part of the 2011 Kern County EIR for the project found that there were no National Register-eligible resources either within the solar facility site or within the Alternative 3 gen-tie alignment. A new pedestrian survey of the solar facility site and the Alternative 2 and Alternative 3 gen-tie alignments is scheduled for early 2014. The study will be conducted in accordance with BLM standards, and will be structured to comply with Section 106 requirements. A records search for the Alternative 2 alignment is also scheduled for early 2014. If access can be obtained to private parcels, a pedestrian survey of those areas would also be conducted.

15. PROPOSED MITIGATION AND AVOIDANCE MEASURES

Based upon the resources that could be potentially affected by the project, and in accordance with applicable laws and regulations, RE proposes has compiled the following list of proposed mitigation and avoidance measures for the project. Additional mitigations may be identified and proposed during the formal environmental analysis for the project.

15.1 General Construction Measures

1. The construction contractor(s)/crew(s) will be educated about the biological constraints of the Gen-tie Project by an Authorized Biologist (AB) or a Biological Monitors (BMs) under the direction of an AB. All construction personnel working in the survey area will attend a contractor education program, developed and presented by a project biologist prior to the commencement of construction activity.
2. The anticipated impact zones within the right-of-way, including staging areas, equipment access, and disposal or temporary placement of soils, will be delineated with stakes and flagging by a BM prior to construction. Construction-related activities outside of the impact zone will be avoided.
3. New roads that are planned for construction will not extend beyond the planned impact area that will be flagged prior to construction. All vehicles passing or turning around will do so within the planned impact area or in previously disturbed areas. Where new access is required outside of existing roads or the construction zone, the route will be clearly marked (i.e., flagged and/or staked) prior to the onset of construction.

4. Spoils will be stockpiled in disturbed areas presently lacking native vegetation. Stockpile areas will be marked to define the limits of where stockpiling can occur.

5. Erosion and sediment control best management practices (BMPs) will be employed in accordance with a Storm Water Pollution Prevention Plan (SWPPP) or similar plan to minimize impacts during construction, operation, and decommissioning.

6. Fueling of equipment during all phases of the Gen-tie Project will take place within existing paved roads and not within or adjacent to drainages or native desert vegetation. Equipment will be checked for leaks prior to operation and repaired as necessary. Spill kits will be available at the Solar Project site to respond to potential and actual spills in accordance with SWPPP BMPs.

7. Construction activities and ground-disturbing operations and maintenance activities within the Corridor will be monitored by one or more ABs. A designated lead AB will have the ultimate responsibility for these avoidance and minimization measures.

8. The introduction of exotic plant species will be controlled by implementation of weed control activities as defined in a Weed Management Plan. The introduction of exotic plant species will be avoided and controlled wherever possible, and may be achieved through physical or chemical removal and prevention, limiting the size of any vegetation and/or ground disturbance to the absolute minimum, and limiting ingress and egress to defined routes. Preventing exotic plants from entering the project site via vehicular sources will include measures such as implementing Trackclean or other methods of vehicle cleaning for vehicles coming and going from the Corridor. Earth-moving equipment will be cleaned prior to transport to the Corridor.

15.2 Resource-Specific Measures

1. The Gen-tie Project Applicant will mitigate for temporary and permanent impacts to habitat deemed suitable for occupancy by DT. Mitigation would be achieved through off-site land acquisition, off-site habitat enhancement, funding programs that would promote the recovery of DT, and/or participation in an acceptable in-lieu fee program. If the mitigation consists of off-site habitat acquisition, then that mitigation will primarily include the off-site purchase of in-kind habitat of greater habitat value than that of the impacted habitat. DT habitat will be mitigated at a 1:1 ratio. In the interest of contiguity of mitigations lands, this land may be purchased in conjunction with the off-site lands purchased for the separate Solar Project. Long-term management of the land by an appropriate organization that is approved by USFWS and CDFW (resource agencies) will include necessary endowments and reporting to the resource agencies. This will be funded as part of the land acquisition fees. The location of the preserved land and the management program will be negotiated between the resource agencies and the project Applicant.

2. Prior to pre-construction activities, the Applicant will prepare a site-specific DT Relocation/Translocation Plan. This document may be prepared as a combined plan for the Gen-tie Project and the separate Solar Project. The plan will provide details on DT clearance surveys and relocation/translocation and will be consistent with current USFWS guidelines (USFWS 2010).

3. Prior to the start of generation tie-line construction, ABs, and BMs under the direction of an AB, will conduct clearance surveys for DTs within the Corridor in accordance with current USFWS guidelines. Clearance surveys of the Corridor will occur no more than 24 hours before planned activity. The clearance may be conducted during any time of year and will consist of transect surveys at no greater than 5 meters (15 feet) within the Corridor and a 50 foot buffer area. All burrows that could provide shelter for a DT will avoided if at all possible. If burrows cannot be avoided, they will be excavated during the first clearance survey.

4. Following site clearance, the AB will prepare a report that documents the survey methods used, names of surveyors, timing, weather, handling methods, capture and release locations of all DT found, individual DT data, and other relevant data. This report will be submitted within 30 days of completion of the clearance surveys to resource agency representatives.

5. The Gen-tie Project Applicant will appoint ABs and BMs to oversee compliance with the avoidance and minimization measures for the DT. The AB or BM will be present during construction activities, and will have the right to halt all activities that are in violation of the DT protection measures. Work will proceed only after hazards to the DT are removed and the species is no longer at risk, or the AB has moved the individual from harm's way. The AB and BM will have a copy of all the compliance measures while any work is being conducted on-site.

6. The project Applicant will submit the name and statement of qualifications in accordance with USFWS format of all proposed ABs to resource agency representatives for review and approval at least 30 days prior to initiation of any ground-disturbing activities and pre-activity surveys. Gen-tie Project activities will not begin until the ABs are approved by the resource agencies. Only ABs will be allowed to handle and relocate DT when necessary. BMs will ensure compliance with the protection measures but may only assist with clearance surveys under the direction of an AB. Workers will immediately notify the AB or BM of all DT observations.

7. Intentional killing or collection of plant or wildlife species, including DT, in the Corridor and surrounding areas will be prohibited. The AB, BM, and resource agency representatives will be notified of any such occurrences within 24 hours.

8. For emergency response situations, the AB will notify the resource agency representatives within 24 hours by telephone and fax or electronic communication. As a part of this response, the resource agency representatives may require additional measures to protect DT. During any responses related to human health, fire, hazardous waste, or repairs requiring off-road vehicle and equipment use, the resource agency representatives may also require measures to mitigate for loss or damage to habitat.

9. At the end of each work day, the AB or BM will ensure that all potential wildlife pitfalls resulting from construction activities (trenches, bores, and other excavations) have been backfilled. If backfilling is not feasible, all trenches, bores, and other excavations will be sloped at a 3:1 ratio at the ends to provide wildlife escape ramps, covered completely to prevent wildlife access, or fully enclosed with DT-exclusion fencing. All trenches, bores, and other excavations outside of

the areas permanently fenced with DT exclusion fencing will be inspected periodically throughout the day, at the end of each workday, and at the beginning of each day by the AB or BM. Should a DT or other wildlife become trapped, the AB will remove and relocate the individual, as described in the DT Relocation/Translocation Plan.

10. Any construction pipe, culvert, or similar structure with a diameter greater than 3 inches stored less than 8 inches aboveground and within DT habitat for 1 or more nights will be inspected for DT before the material is moved, buried, or capped. As an alternative, all such structures may be capped or placed on pipe racks.

11. In the event of a sighting in an active construction area (e.g., with equipment, vehicles, or workers) injury, kill, or relocation of any listed species, the resource agency representatives will be notified immediately by phone. Notification will occur no later than noon on the business day following the event if it occurs outside of normal business hours so that the agencies can determine if further actions are required to protect listed species. Written follow-up notification via fax or electronic communication will be submitted to these agencies within 2 calendar days of the incident and include the following information, as relevant:

    a. Injured Desert Tortoise. If a DT is injured as a result of project-related activities during construction, the AB will immediately take it to a wildlife rehabilitation and/or veterinarian clinic approved by the resource agencies. Any veterinarian bills for such injured animals will be paid by the project owner. Following phone notification, as required above, the resource agency representatives will determine the final disposition of the injured animal, if it recovers. Written notification will include, at a minimum, the date, time, location, circumstances of the incident, and the name of the facility where the animal was taken.

    b. Desert Tortoise Fatality. If a DT is killed by project-related activities during construction or operation, a written report with the same information as an injury report will be submitted. These DTs will be salvaged according to guidelines described in *Salvaging Injured, Recently Dead, Ill, and Dying Wild, Free-Roaming Desert Tortoise* (Berry 2001). The project owner will pay to have the DT transported and necropsied. The report will include the date and time of the finding or incident.

12. No later than 2 days following the above-required notification of a sighting, kill, or relocation of a listed species, the project owner will deliver to the resource agency representatives, via fax or electronic communication, the written report from the AB describing all reported incidents of injury, kill, or relocation of a listed species, identifying who was notified and explaining when the incidents occurred. In the case of a sighting in an active construction area, the project owner will, at the same time, submit a map (e.g., using Geographic Information Systems) depicting both the limits of construction and sighting location to the resource agency representatives.

13. On a monthly basis until construction is completed, the AB will prepare a brief report for the resource agency representatives, documenting the effectiveness and practicality of the avoidance, minimization, and mitigation measures that are in place and making

recommendations for modifying the measures to enhance DT protection, as needed. The report will also provide information on the overall biological-resources-related activities conducted, including the worker education program, clearance/pre-activity surveys, monitoring activities, and any observed DTs, including injuries and fatalities.

14. The AB will prepare annual monitoring reports that address the management of the mitigation lands acquired to compensate for impacts to DT. The annual report will be submitted to the project Applicant and the resource agency representatives at the end of each calendar year, for the duration of the permit.

15. A Raven Monitoring, Management, and Control Plan (RMMCP) will be designed and implemented to identify the conditions of concern specific to the project that may attract ravens to the area and to define a monitoring, management, and control plan that will monitor raven activity and identify measures that will first avoid, then minimize and mitigate impacts. The monitoring effort is intended to provide qualitative data that can be interpreted by the BM and AB to determine if project design features and management practices are working or if additional measures are needed to avoid, minimize, and/or mitigate impacts to DT. The purpose of the RMMCP is to ensure that the construction, operation and maintenance, and decommissioning of the project do not attract ravens to the project area by creating food or water subsidies, perch sites, roost sites, or nest sites, and to identify the conditions of concern specific to the project that may attract ravens. The monitoring effort will provide information that will show whether this purpose is being met during all phases of the project or if additional measures are needed to meet the objective.

    RMMCP objectives are as follows:

    a. Clearly identify how the project would use design features and other measures to manage the conditions of concern that may attract ravens to the area.

    b. Document the effectiveness of project design features and other measures, in addition to raven management and control measures implemented at the project site.

    c. Specify how, when, and what other measures would be selected and implemented if the monitoring suggests the need for additional controls.

    d. Define triggers for modification of management and control measures using adaptive management principles.

16. In the event that a DT is found during the transmission operations and maintenance phase, all activities in its vicinity will stop until the DT leaves the immediate work area and is out of harm's way. If the DT is in immediate danger of harm or does not move out of the planned work area in a reasonable time to allow for necessary work (reasonable time will be determined by the AB based on the proposed activities and their urgency), the AB will capture and relocate the animal to a safe location outside of the Corridor according to the USFWS protocol.

15.3 General Operational Measures

1. The AB will responsible for awareness trainings, surveys, compliance monitoring, and reporting.
2. Impacts from vehicle strikes will be minimized by educating employees on the proper procedures for operating vehicles and equipment within the Corridor. Personnel will use established roadways (paved or unpaved) in traveling to and from the work area, and will use existing roads on-site whenever possible. Cross-country vehicle and equipment use outside of designated work areas will be prohibited. To minimize the likelihood for vehicle strikes of DT, a speed limit of 25 miles per hour (mph) will be established for travel within DT habitat areas.
3. A trash abatement program will be established for the Corridor to reduce the attractiveness to opportunistic predators of DT such as common ravens, coyotes (Canis latrans), and free-roaming dogs. Trash and food items will be contained in closed containers, removed weekly, and disposed of at an appropriate off-site landfill.
4. Workers will be prohibited from bringing pets and firearms to the project area.
5. Any time a vehicle or construction equipment is parked in DT habitat, the ground under the vehicle will be inspected for the presence of DT before it is moved. If a DT is present, the vehicle/equipment will not be moved until the DT moves on its own and away from the vehicle/equipment. If it does not move within 15 minutes, the AB will capture and relocate the animal to a safe location outside of the Corridor according to the USFWS protocol.
6. All vehicles and equipment will be in proper working condition to ensure that there is no potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. The AB and BM will be informed of any hazardous spills within 24 hours. Hazardous spills will be immediately cleaned up and the surface recontoured so it does not pose a hazard to DT. The contaminated soil will be properly disposed of at a licensed facility.
7. Water or dust palliatives will be applied to the construction ROW, dirt roads, trenches, spoil piles, and other areas where ground disturbance takes place to minimize dust emissions and topsoil erosion. Dust palliatives will be non-toxic to wildlife and plants. During the DT active season, an AB or BM will monitor any project-caused ponding to ensure it does not serve to attract DT, common ravens, or other wildlife to the Corridor. Alternatively, project-caused ponding will be eliminated.

16. ENVIRONMENTAL REVIEW

The RE Cinco Solar Project (formerly RE Barren Ridge 1 Solar Project) was reviewed and approved by the Kern County Board of Supervisors on December 6, 2011. The County certified an Environmental Impact Report (EIR) (SCH No. SCH# 2011011005), and granted a General Plan Amendment (GPA 1, Map 151) and a Conditional Use Permit (CUP 1, Map 151) to authorize development of the project.

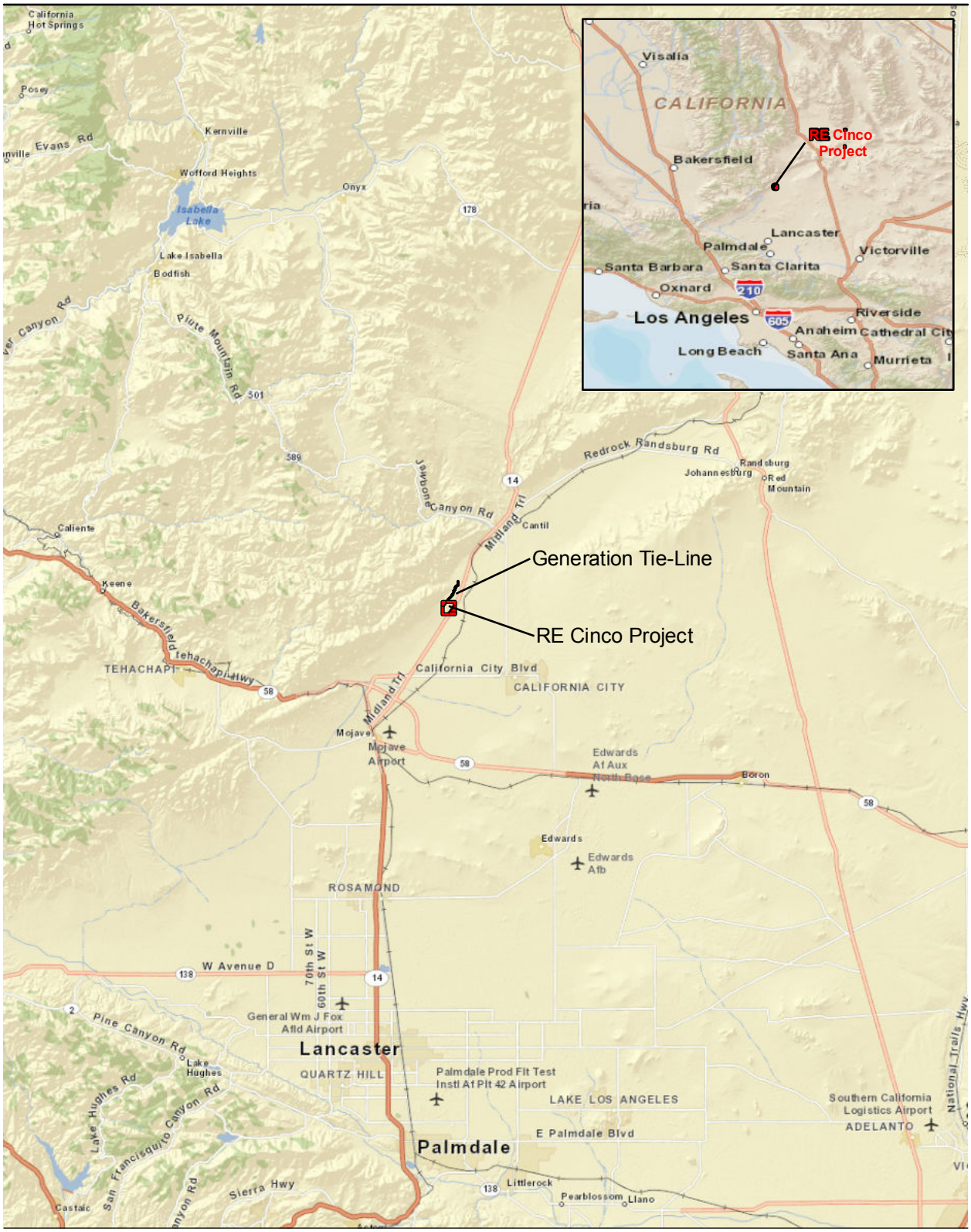
Approval of the proposed gen-tie is a federal action and is thus subject to the environmental assessment requirements of the National Environmental Policy Act (NEPA). RE will prepare a Draft Environmental

Assessment (EA) in accordance with applicable BLM NEPA requirements for BLM review. Following the BLM's review and approval of the Draft EA, the EA will be circulated for public comment in accordance with applicable regulations.

17. OTHER AGENCY INVOLVEMENT

The proposed gen-tie involves permits and approvals from several federal, state, and local agencies as summarized below:

- U.S. Fish and Wildlife Service (USFWS): Section 7 Permit for Take of Desert Tortoise on federal lands, with consultation facilitated by BLM
- USFWS: Section 10 incidental Take Permit and approval of Habitat Conservation Plan for the solar facility
- California Department of Fish and Wildlife: Incidental Take Permit for take of Mohave Ground Squirrel and Desert Tortoise and Streambed Alternation Agreement for Waters of the State
- Kern County Board of Supervisors: The gen-tie and cumulative solar facility was reviewed and approved by the Kern County Board of Supervisors on December 6, 2011. The County certified an Environmental Impact Report (EIR) (SCH No. SCH# 2011011005), and granted a General Plan Amendment (GPA 1, Map 151) and a Conditional Use Permit (CUP 1, Map 151) to authorize development of the project.



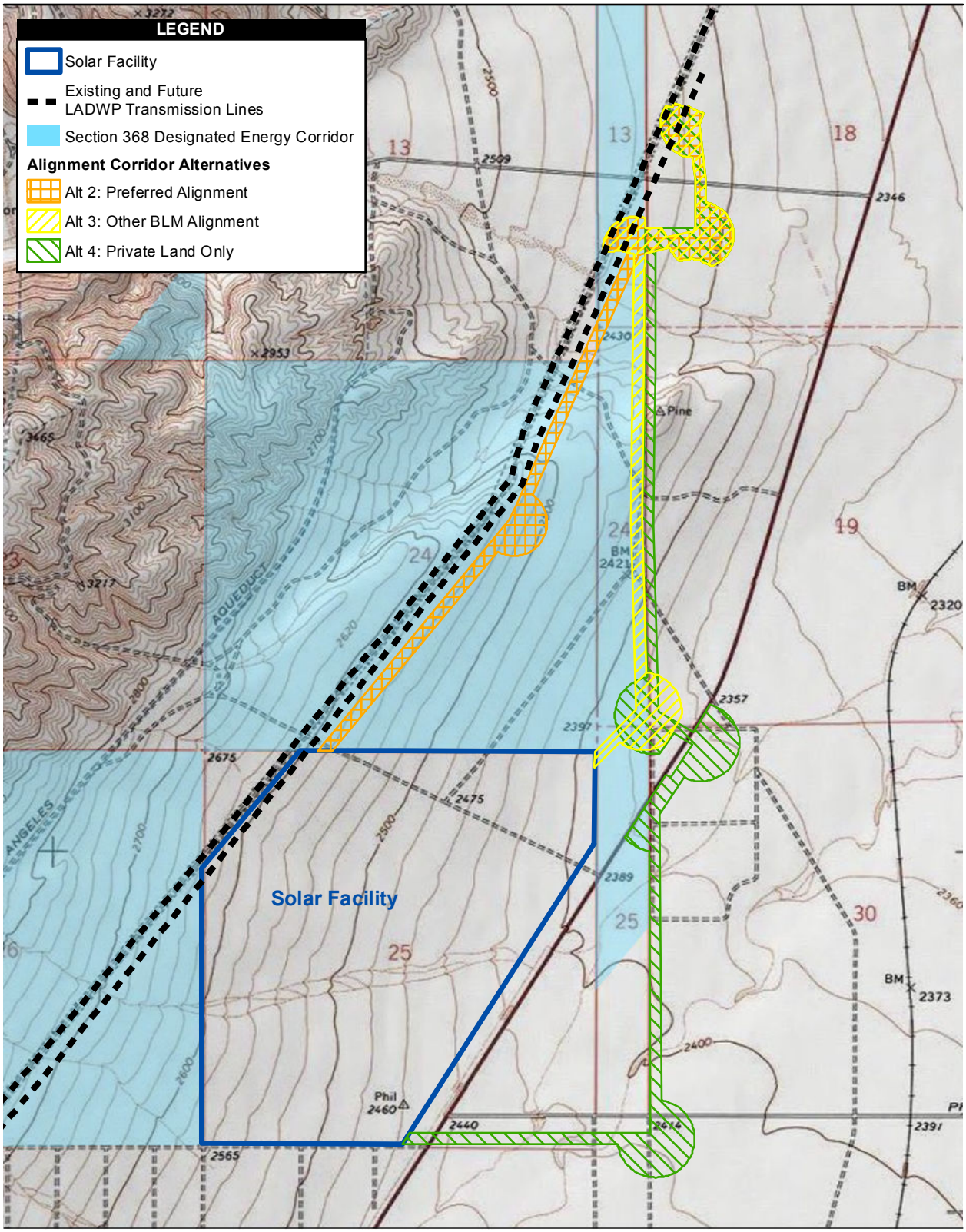
Source: RE Cinco 2013; AECOM 2013; Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013

12 6 0 12 Miles

Scale: 1 = 760,320; 1 inch = 12 miles

Figure 1
Regional Location Map

Path: P:\2011\11280215.01_Recurrent_PV\06GIS\6.3_Layout\POD\Barren Ridge\BR-POD Regional Map.mxd, 2/24/2014, steinb



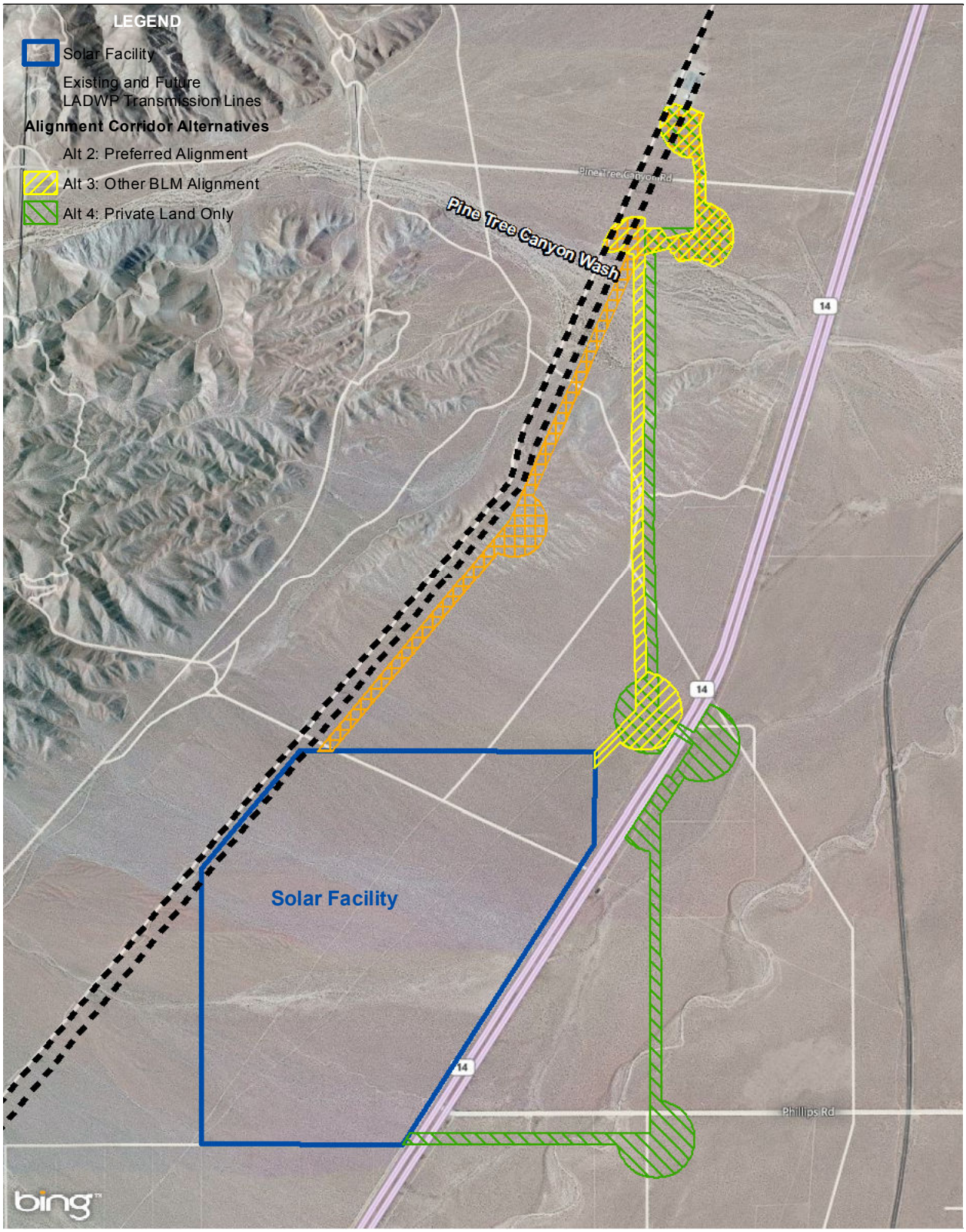
Source: RE Cinco 2013; AECOM 2013; Copyright:© 2013 National Geographic Society, i-cubed

2,000 1,000 0 2,000 Feet

Scale: 1 = 24,000; 1 inch = 2000 feet

Figure 2
Topographic Vicinity Map

Path: P:\2011\11280215.01_Recurrent_PV\06GIS\6.3_Layout\POD\Barren Ridge\BR-POD USGS Quad Vicinity.mxd, 3/12/2014, irelandm



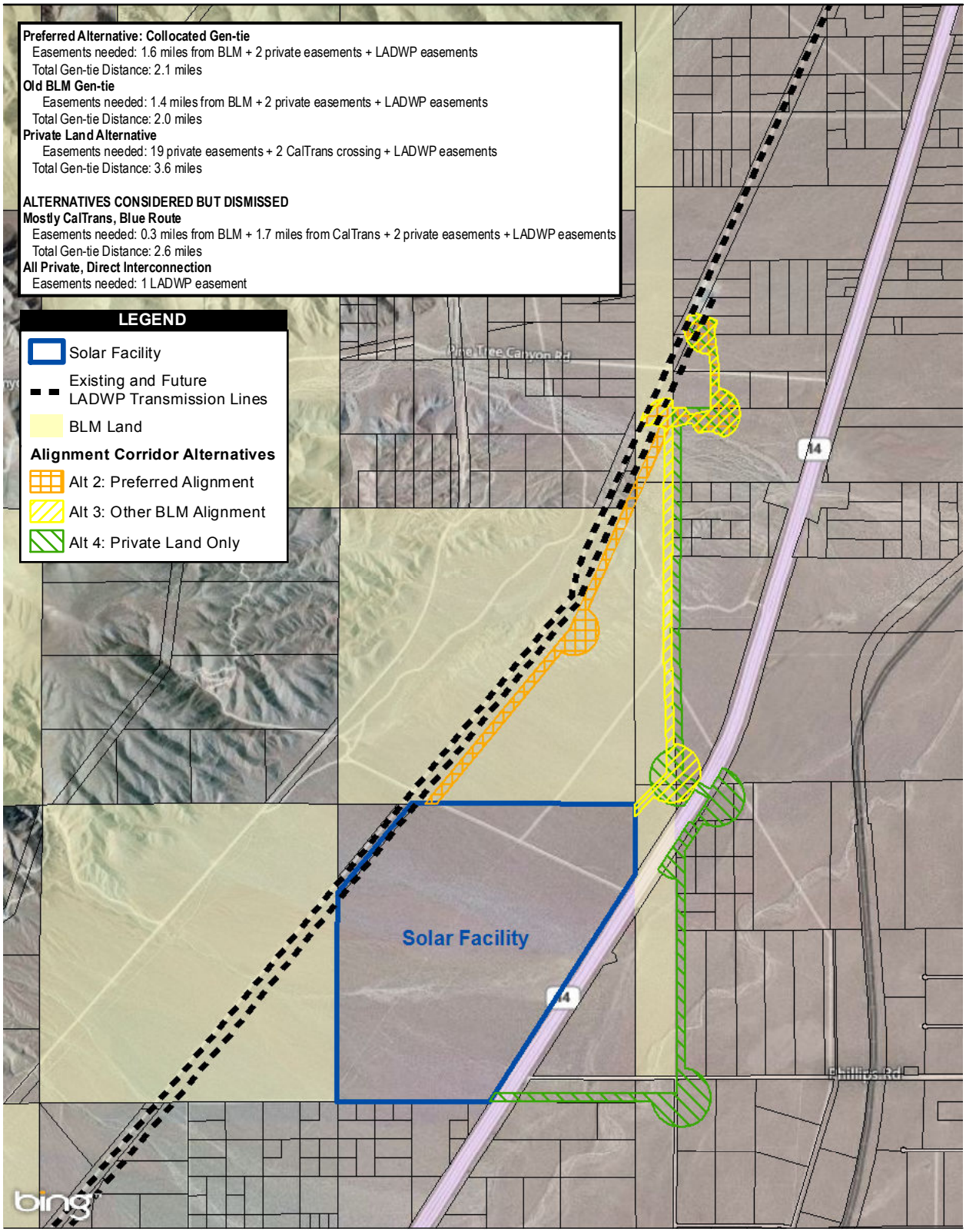
Source: RE Cinco 2013; AECOM 2013; Image courtesy of USGS Image courtesy of the Nevada State Mapping Advisory Committee © AND © 2013 Nokia © AND

2,000 1,000 0 2,000 Feet

Scale: 1 = 24,000; 1 inch = 2000 feet

Figure 3
Aerial Vicinity Photograph

Path: P:\2011\11280215.01_Recurrent_PV\06GIS\6.3_Layout\POD\Barren Ridge\BR-POD Aerial Vicinity.mxd, 3/12/2014, irelandm



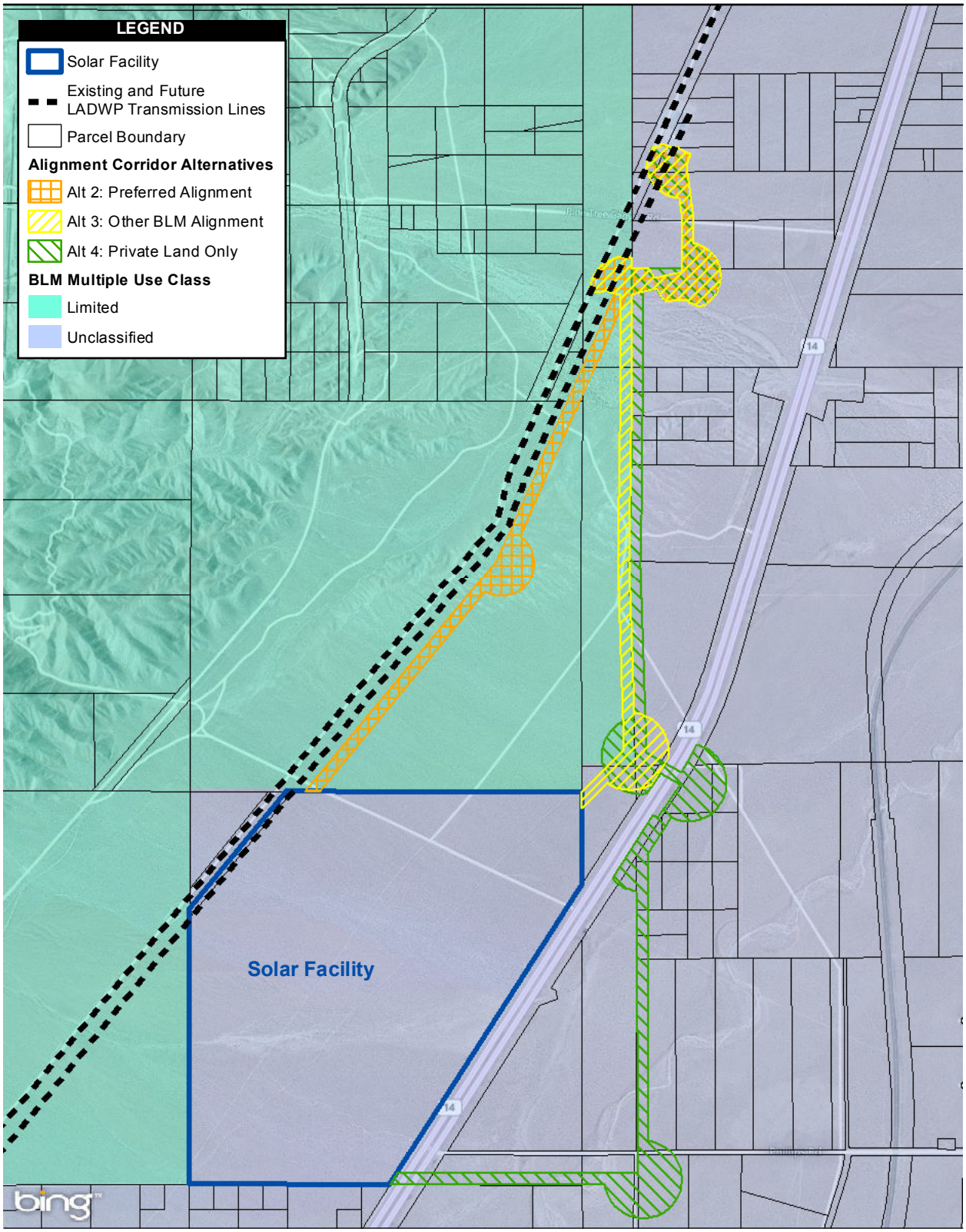
Source: RE Cinco 2013, Image courtesy of USGS Image courtesy of the Nevada State Mapping Advisory Committee © AND © 2013 Nokia © AND

0.5 0.25 0 0.5 Miles

Scale: 1 = 31,680; 1 inch = 0.5 miles

Figure 4
Proposed Action and Alternatives

Path: P:\2011\11280215.01_Recurrent_PV\06GIS\6.3_Layout\POD\Barren Ridge\BR-POD Gen-Tie Alternatives.mxd, 3/12/2014, irelandm



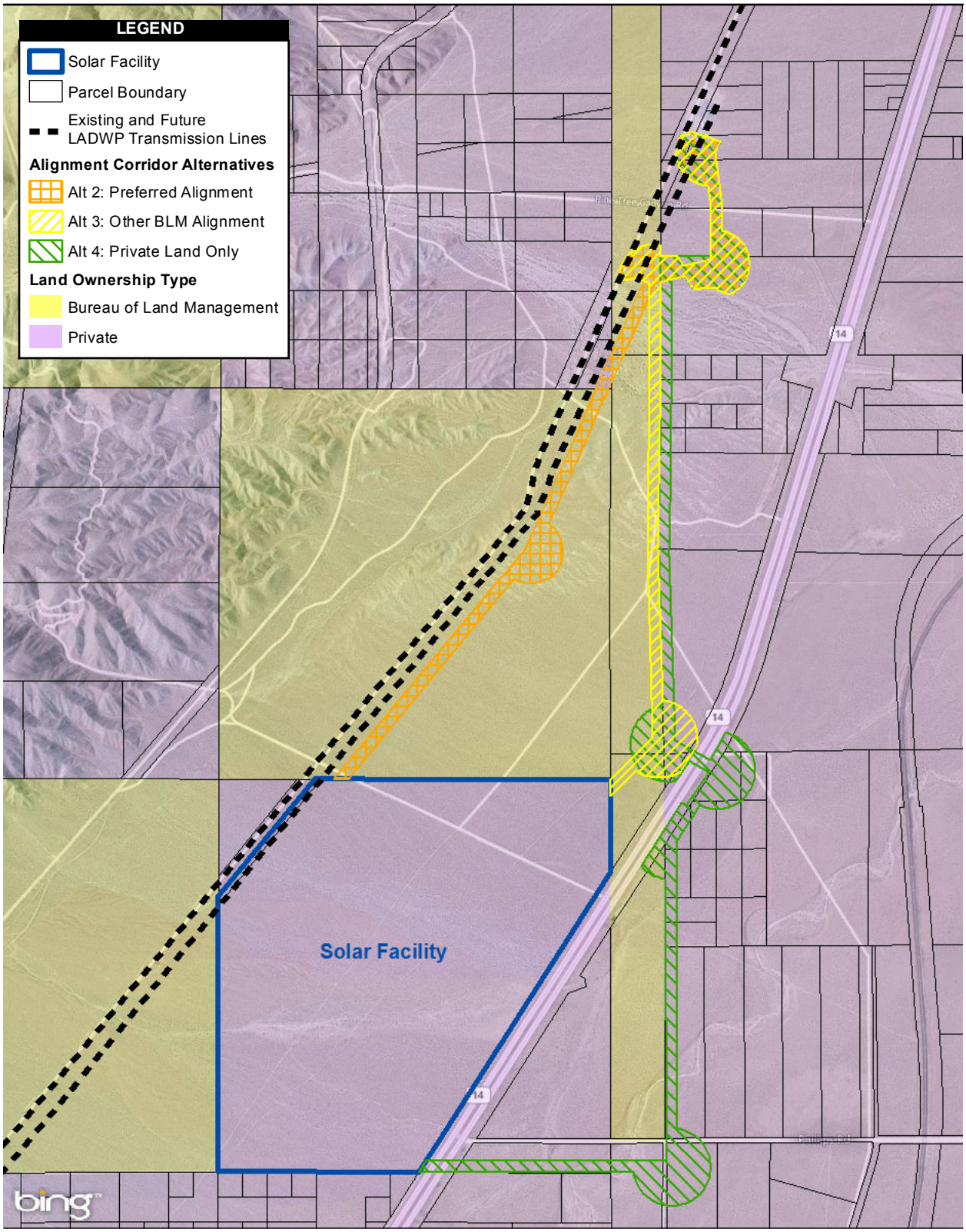
Source: RE Cinco 2013, Image courtesy of USGS Image courtesy of the Nevada State Mapping Advisory Committee © AND © 2013 Nokia © AND

2,000 1,000 0 2,000 Feet

Scale: 1 = 24,000; 1 inch = 2,000 feet

Figure 5
BLM Multiple Use Class

Path: P:\2011\11280215.01_Recurrent_PV\06GIS\6.3_Layout\POD\Barren Ridge\BR-POD BLM Multiple Use Class.mxd, 3/12/2014, irelandm



Source: RE Cinco 2013, Image courtesy of USGS Image courtesy of the Nevada State Mapping Advisory Committee © AND © 2012 MapData Sciences Pty Ltd, PSMA © 2012 Zenrin

0.5 0.25 0 0.5 Miles

Scale: 1 = 31,680; 1 inch = 0.5 miles

Figure 6
Land Ownership

Path: P:\2011\11280215.01_Recurrent_PV\06GIS\6.3_Layout\POD\Barren Ridge\BR-POD Land Ownership.mxd, 3/12/2014, irelandm